

EFFICIENCY AND EQUITY: TRANSPORTATION ACCESS  
IN FORT SMITH, ARKANSAS

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TERMINAL RESEARCH REPORT

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## RESEARCH REPORT

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Title: Efficiency and Equity: Transportation Access in Fort Smith, Arkansas

The City of Fort Smith is a small urban area<sup>1</sup> (population 86,122<sup>2</sup>) in far western Arkansas. Like many cities everywhere in the U.S., Fort Smith has a rapidly growing aging population; there are also a significant number of residents who have disabilities which makes mobility a challenge. Fort Smith is not designed compactly and is typical of mid-century suburban sprawl. Senior citizens and those with mobility issues are forced to drive themselves or rely on friends or neighbors for basic transportation needs. The purpose of this study is to analyze the effectiveness and extent of access to the public transportation system in Fort Smith, called Fort Smith Transit, for these two populations: senior citizens and the disabled. A content analysis study is performed of transportation documents and GIS ArcMaps created from U.S. Census data to show the relationship between these populations and access to the Fort Smith Transit system. Documents reference the concept of transit equity repeatedly and refer to serving the disabled or those with physical mobility challenges so there is awareness of the need to serve this population. Findings from content analysis and GIS mapping show that city residents are moving eastward within the city limits. Senior citizens and the disabled who live closer to downtown are well served by transit but Fort Smith Transit has not yet caught up with service needs for residents moving eastward. Additionally, some newly built city services lie far outside a quarter-mile buffer zone surrounding all current bus routes. Findings indicate that representatives of the disabled community have been involved in local decision-making boards but continued strides are needed to directly involve this historically disenfranchised population. Several recommendations urge Fort Smith Transit to expand its bus routes further east to address the population needs. One land use option is for Fort Smith to upzone the northeast side of the city along the Arkansas River to allow multi-family housing construction including townhomes, condominiums, and senior living centers in what is currently single-family housing zones. Fort Smith Transit and the City of Fort Smith have several options in order to address the growing needs of area senior citizens and disabled residents.

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<sup>1</sup> Organisation for Economic Co-operation and Development (2018). Data. "Urban population by city size." ([data.oecd.org](https://data.oecd.org))

<sup>2</sup> United States Census Bureau. American Community Survey 2017. Fort Smith, Arkansas. "Population in households." ([data.census.gov](https://data.census.gov))

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## CHAPTER 1:

### WHAT IS TRANSPORTATION JUSTICE?

## INTRODUCTION

Across the U.S. and around the world, people are living longer than ever due to advances in medical care. Families are living with several generations of family members under one roof—or, many senior citizens aging-in-place continue to reside in homes they've owned for decades and now seek assisted caregiving while remaining as independent as possible. Other senior citizens choose to move out of their longtime homes to assisted living centers with other elders their age where they can continue to have socialization needs met while experiencing personalized healthcare. Whatever their living style, generations of Americans are living longer and need their continued long term health care needs met including regular visits to gerontologists or specialists as they age with chronic healthcare issues. Our older population holds the key to knowledge and a lifetime of experience for younger people. As our grandparents and now parents begin to fall into this demographic, they deserve to have their basic needs met with the least inconvenience. These services include public transportation which elders may become more dependent upon as they are able to drive less.

By the same token, our disabled or differently-abled friends and family members already experience more challenges in life by the very nature of their limitations than someone without disabilities. Some disabilities are physical, mental, or invisible but all affect their lives in some way; in this, they are already challenged. Many of the disabled may not be able to drive for various reasons and so are dependent upon public transportation to get from place to place. For both senior citizens and the disabled, easy access to public transportation with minimal barriers becomes a human rights issue; specifically, a transportation rights issue.

The disabled and senior citizen populations in Fort Smith, Arkansas, generally benefit from transportation services provided by the city's transit authority, Fort Smith Transit: most of these residents live in the city's downtown core where all six bus routes overlap. The routes serviced by Fort Smith Transit are clustered in this western half of the city. However, as residents of Fort Smith begin to expand further eastward within

the city boundaries, U.S. Census and GIS data show Fort Smith Transit needs to also expand its routes eastward to continue providing sufficient services.

The issue is that for many populations--but in this case, for senior citizens and the disabled—a disparate city design combined with lack of personal vehicle ownership and limited transportation options makes the ability to access basic needs infinitely harder. The burden is greater upon populations with limited time, mobility challenges, financial resources, and infrastructure access to reach necessary services than for those who may be more able-bodied or who own a personal vehicle. These necessary services include but are not limited to access to local grocery stores, places of work, schools and other educational opportunities. A lack of accessible grocery stores and similar shops for healthy food, for example, creates food deserts. Residents must travel disproportionately farther—and take more time out of their day—to reach healthy food sources than those with access to either personal or public transportation. Otherwise, food options may be available within a reasonable travel distance by foot or bicycle. This problem is an example of transportation justice. The purpose of this research is to investigate disparities in equity to public transportation access and propose recommendations that will better serve Fort Smith residents than what currently exists.

This topic is important because the research takes place in a Mid-South community that has not been frequently studied. Not much research has been done on smaller cities and towns across the United States; instead, research tends to focus on large metropolitan areas. Specifically, there remains a gap in knowledge regarding equity and efficiency of transportation systems in how they serve vulnerable populations in these smaller geographic areas. However, there are many people living in the middle of the country who also need assistance planning their communities. Often, these citizens feel they have been forgotten as design and infrastructure processes move forward in other parts of the country; as a result, a cultural divide often occurs between these

pockets of progress and slower development. Equity issues for various groups are not always addressed especially in medium-sized and smaller<sup>3</sup> towns across the country.

The purpose of this topic is to provide a practical analysis of current conditions and mobility needs for particular groups and determine how an improved transportation system will better serve them. The results from the research will provide a model of how to serve a small southern community that has experienced changing demographics in the past forty years. This project of using Fort Smith, Arkansas, as a pilot will build upon the momentum that is already taking place in the western half of the state particularly in the communities of Northwest Arkansas and further south to Fort Smith. Research findings will demonstrate an improved transportation system is more equitable for all Fort Smith residents.

## FRAMING TRANSPORTATION JUSTICE

In the U.S., populations of individuals have historically—and to this day—had less access to the same basic rights as the majority (i.e., White) population. The fight for equal rights is numerous. It encompasses a variety of different sectors such as equal education (U.S. Supreme Court Case *Brown v. Board of Education*, 1954-1955)<sup>4</sup>, equal treatment of those with disabilities (Americans with Disabilities Act - ADA)<sup>5</sup>, access to equal housing as in the practice of redlining, and—for the purposes of this study—equal access to public transportation. Transportation justice has been discussed by a number of social justice advocates who saw the connection between spatial geography, access to public transportation, and social exclusion of certain populations. These writers have argued that this access is not only necessary but a human right.

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<sup>3</sup> Organisation for Economic Co-operation and Development (2018). Data. "Urban population by city size." ([data.oecd.org](https://data.oecd.org))

<sup>4</sup> United States Courts. (n.d.) History – *Brown v. Board of Education* Re-enactment. "The Road to Brown: Early Cases: *Brown v. Board of Education* (1954, 1955)." (<https://www.uscourts.gov>)

<sup>5</sup> U.S. Department of Justice Civil Rights Division. (n.d.) Information and Technical Assistance on the Americans with Disabilities Act. "Introduction to the ADA." (<https://www.ada.gov>)



One of the earliest planning theorists was Henri Lefebvre who in 1976 wrote that all citizens deserved equal access to amenities within their cities; not only that they deserved access but that access was a human right. Lefebvre's writings still serve as the basis for many planning theory arguments on the justification of transportation rights and access. Many years later, in 2014, urban planning theorist Susan Fainstein wrote that there was a moral dimension to justice and to planning in general.<sup>6</sup> She wrote of the need for peoples to be involved in the planning practice at the local level; she argued that localized democracy affects residents and that it plays a part in the planning process. Later, planning theorist Iris Marion Young stressed the importance of being politically active within the local planning process in order to effect sufficient change that benefits all.

Some writers on the subject point to early cases in the fight for transportation justice as an example for necessary change. One such example was a challenge from the Los Angeles Bus Riders Union against the city's Metropolitan Transit Authority (MTA). In his book *Seeking Spatial Justice*, urban theorist Edward Soja cites the example of this challenge to the Los Angeles Metropolitan Transit Authority (LAMTA). In their case in 1996, the Los Angeles Bus Riders Union successfully sued the Los Angeles Metropolitan Transit Authority<sup>7</sup>. They argued that the LAMTA was intentionally designed to bypass neighborhoods consisting mostly of Latinx, Asian-American, African-American, and low-income city residents. The resulting case decision by the courts forced the MTA over the next ten years to reorient their transportation system so that these populations of Los Angeles were better served in the future.

In *Seeking Spatial Justice*, Soja asserts that the application of justice within a city's boundaries is based on spatial geography; in other words, where a person lives within the city. This can be based upon certain populations who for various reasons tend to live in a particular enclave or section of a city. Often, those who are responsible for

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<sup>6</sup> Fainstein, Susan. (2014). *International Journal of Urban Sciences*. "The Just City."

<sup>7</sup> Soja, E. (2010, January 1). *Seeking Spatial Justice*. ProQuest Ebook Central. <https://ebookcentral-proquest-com.libproxy.uoregon.edu/lib/uoregon/reader.action?docID=548072>

designing amenities such as public transportation have designed them in a way that either consciously or unconsciously benefits wealthier (and more likely, White) residents of the city over those who may actually depend more upon these services—they are frequently low-income or of ethnic or racial minority<sup>3</sup>. In the case of Fort Smith, it is important to examine data and published documents to determine whether Fort Smith Transit is best serving the needs of the city's most vulnerable population. Specifically, this means studying where bus routes are sited in relation to where populations live and the services they rely on. Are bus routes sited near the block groups where these populations live? Do the populations live within an accessible quarter-mile buffer zone travel distance between their place of residence and closest bus route? Along the routes themselves, are there sufficient bus stations or benches placed at regular intervals so riders do not have to walk, or travel far to wait for the next bus? Regarding Soja's explanation of spatial justice, it will be interesting to note whether the bus routes serviced by Fort Smith Transit are sited closer to populations in greatest need of public transportation—in this case, the disabled and senior citizens—or whether they are conveniently located in wealthier neighborhoods, or where these populations are fewer in number. If data show that populations most in need of public transportation service do not have their needs met, this may show there is an existing inequity of access--and therefore an issue of transportation and spatial injustice.

The argument that planning scholars and social justice advocates use is that every city resident is entitled to public transportation and fair access to basic amenities, to ensure that the low-income and others who are most dependent on these services have the access they need.

## PROBLEM STATEMENT

The purpose of this study investigates equity in access to the public transportation system in Fort Smith, Arkansas, by senior citizens and the disabled. Particular attention is paid to where these populations live within the city limits in relation to the following amenities: public schools, emergency services (police, fire, etc.), and health care facilities (health clinics and hospitals). Access to health care facilities is important to all

residents but especially for the disabled and senior citizens. Both groups have special needs that may require more time, attention, and specialized long-term care; both may also have to visit these facilities more frequently for follow-up care as a result. The ability to easily access educational institutions is important because of the opportunity education affords for a more successful future both in terms of long-term financial gain and greater access to capital. For the purposes of this study, the disabled population may be either an adult or a child; a disabled parent could potentially be accompanying their young child to school, the child themselves could be disabled and attempting to access the closest school every day, or a disabled adult might wish to attend the local institute of higher education. In the case of emergency services, senior citizens in ill health or who may suffer physical accidents need quick response time from police, EMS, etc.; some seniors for various reasons may need to transport themselves directly to a police or fire station. For the same reason, disabled and senior citizens may need to travel to the local hospital system or health care unit for regular doctors' care, check-ups, or to visit family or friends in the hospital. These are all examples of cases in which it is important for disabled and senior citizen populations to be able to travel quickly and efficiently especially if they do not have access to a personal vehicle.

## RELEVANCE

One issue for the City of Fort Smith is a lack of a comprehensive, integrated, multi-modal public transportation system; however, a basic transportation shuttle service exists. Access to transportation among senior citizens and the disabled was analyzed by cross-comparing three main elements. One element was GIS data showing where these two populations live within Fort Smith at the block group scale; another was locating pre-selected necessary services and their structures (public schools, emergency services, and health care facilities) using access to GIS shape files. Additionally, the six existing Fort Smith Transit bus routes were mapped in ArcGIS.

This issue is important because research has shown that these groups are often the largest users of public transportation systems yet when cities seek to streamline transportation infrastructure services, populations who have a harder time accessing

services are often the first to have their routes eliminated. In addition, cities continue to fund major infrastructure projects that benefit personal automobile users over those who take public transportation. As a result, populations such as senior citizens and the disabled cannot access their workplaces and basic amenities.

## BARRIERS AND EQUITY ISSUES

Research shows that senior citizens are one population group that is not served as effectively as it could be by public transportation options. According to research by Jon E. Burkhardt (2003), "Frequent, comfortable, affordable, spontaneous service to a wide variety of origins and destinations over a wide range of service hours is what seniors desire," (p. 105). Burkhardt (2003) goes on to write that there needs to be a whole paradigm shift in how public transportation services are provided in order to better serve the elderly population including a focus on customer service, options of integrated transportation modes, an extension of reliable service operation times, and comfortable station waiting areas (p. 106).

Research has shown that despite a need for addressing equity and access issues in public transportation, these criteria are not always addressed in metropolitan transportation planning particularly in smaller cities and rural regions (Karner, 2016, p. 46). Planners in these areas tend to lack the capacity for analysis of this issue. Therefore, it is an important area which needs further study (Karner, 2016, p. 46). In response to demands from the U.S. Department of Transportation, environmental justice and equity issues often fall to Metropolitan Planning Organizations to ensure that these issues are being properly addressed. According to Karner, the metropolitan level is also the best for addressing these issues as access inequality is related to this level of service (2016, p. 46).

## RESEARCH QUESTIONS

The primary research question for this project is:

How would a more effective public transportation system in Fort Smith, Arkansas, address equity issues for disabled and senior citizen residents?

Stemming from this main question are two sub-questions:

- *Which populations of residents are currently being served by public transportation and to what degree?*
- *What are current barriers to using public transportation for these groups?*

In answering the above research questions, this report seeks to understand the current level of service offered to these populations, what may prevent them from choosing to take public transportation, what would encourage them to take public transportation, and how the current service could be improved.

## APPROACH

This research will address the issue at three different levels. The first level of research is to analyze existing data regarding lack of equity and access, in general, to minority populations. For the scope of this study, this refers to senior citizens and the disabled. Previous data collected and plans created by the City of Fort Smith and the Western Arkansas Planning & Development District/Frontier Metropolitan Planning Organization will be analyzed to see if there are patterns found in the research or gaps in service provision. The second level is to analyze the current state of the public transportation system in the City of Fort Smith as provided by the city's shuttle transit system, Fort Smith Transit. The third issue is to analyze the geographic locations of these populations within Fort Smith regarding where they are clustered in the city's block groups as well as locations of amenities and services. Based on the preceding data recommendations will be made, if necessary, for the current public transportation route and timing; if there is time, a visual component will be proposed for an ideal transportation hub that best serves the sensitive populations researched.

## METHODS AND METHODOLOGY

### DATA COLLECTION

The study involves performing data collection using three main strategies: GIS, archives, and ethnographical analysis. To find this information, the most recent U.S. Census data on the populations were researched and GIS shape files used to indicate locations of necessary amenities and services for the populations. GIS shape files were requested from the State of Arkansas GIS office.

In the process of research several documents were collected: some provided by the City of Fort Smith via their website, and others from Western Arkansas Planning & Development District and the regional transportation authority, Frontier Metropolitan Planning Organization.

### ARCHIVAL

The documents chosen for content analysis are divided into different eras beginning in the mid-2000s through the late 2000s. The document titled “2005-2009 ACS Census data - Languages spoken” is dated 2005-2009. The next two documents for analysis are dated from 2016. These are “2040: The New Frontier - Frontier MPO Metropolitan Transportation Plan” (September 2016) and “Fort Smith Transit: Ride Guide” (December 2016). In 2017, two other documents were made available to the public which were used for the purposes of this study: documents labeled “Title VI Program” and “Fort Smith Transit: Public Participation Plan.” The document titled “Fort Smith Transit: Ridership Satisfaction Survey Summary Report” is dated from December 2018 and “Fort Smith Transit: Paratransit Plan of the Fort Smith Transit (FST) - 2019 [ADA]” is from 2019. “River Valley Transportation Providers” is undated.

The majority of these documents are supplied by the City of Fort Smith on the city’s website, Transit Department page; the remaining documents study the issue of transportation at larger scales. It is important to study the issue of transportation locally, first, to understand the city’s policies on the issue because the City of Fort

Smith is responsible for Fort Smith Transit. Therefore, the majority of the documents used for the study are sourced from the city itself.

## GIS

Initially, the intention of the study was to focus on several populations: race or ethnicity, the homeless, senior citizens, and the disabled. However, during the course of research, with time constraints, and the evolution of the COVID-19 viral pandemic, the populations were reduced to a study of senior citizens and the disabled. These two populations were chosen for final study because they both potentially involve mobility issues and share spatial access challenges. At the same time, members of various racial or ethnic minority groups could also be classified as any one of the other groups and therefore a clear study of racial or ethnic minority groups in this case could not be parsed out. In addition, as U.S. Census data does not exist at this time to distinguish whether a respondent self-classifies as homeless, census data on the homeless could not be found. Therefore, the populations of senior citizens and the disabled were chosen. Data collection strategies used for this project were GIS ArcMap 10.7.1. software, Google Earth images (non-projected), and GIS shapefiles for structures, society, health, and boundaries.

The intent of this research is to study the current level of access senior citizens and the disabled in Fort Smith, Arkansas, have to the following amenities: public schools including K-12 and four-year higher education institutions, emergency services, and health care. GIS shape files of data related to these topics were requested from the State of Arkansas GIS office. Access to education, emergency services, and health care are basic necessary amenities for a resident of any community. Originally, the intention was to also map access to local grocery stores or other food sources such as farmers markets but this data are not provided via GIS shape files. The data would have had to have been manually created. Therefore, this data was not studied but it would also be an important factor to measure.

## ETHNOGRAPHY

Based on spreadsheets provided by the Transit Department page on the City of Fort Smith website, very few of the numerous bus stops along Fort Smith Transit routes are either shelters or benches. Riders classified as either senior citizens or the disabled need a sufficient number of benches provided at regular intervals to sit and rest while waiting for the bus to arrive; both groups also need more shelters with canopies or tinted plexiglass to protect from the hot sun that is prevalent in Arkansas most of the year—or the intense hail and rainstorms.







*Typical Fort Smith Transit bus shelter at Rogers Avenue and Old Greenwood Road (courtesy of GoogleEarth Street View. August 2019).*

Personal observation confirmed that very few of the existing stops are little more than a route sign and a short bench seat, or just a sign. The photograph below is representative of the majority of Fort Smith Transit bus stops: a nondescript white sign. In the photo below, the sign is just to the left of the University of Arkansas-Fort Smith Lions poster on an electrical box.



Fort Smith Transit bus stop sign at Grand Avenue and North Albert Pike Avenue (courtesy of GoogleEarth Street View. August 2019).

## DATA ANALYSIS

Content analysis was performed on documents, data, and surveys provided by the City of Fort Smith and regional metropolitan transportation authorities. These were the most appropriate methods of research because content analysis provided policy-related data on existing conditions.

Publicly available collected documents were coded by hand and data was analyzed using a grounded theory approach. Grounded theory is the process of developing a theory based on the methodical collection and analyzation of data; it was pioneered by researchers Glaser and Strauss during their study entitled *Awareness of Dying* published in 1966.<sup>8</sup> Through this process of data analyzation, relationships were observed between where populations of senior citizens and the disabled live in Fort Smith—in particular, at the geographic block group level—and their level of access to

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<sup>8</sup> Fulton, Robert. "Awareness of Dying. Barney G. Glaser, Anselm L. Strauss." *American Journal of Sociology* 72.3 (1966): 332-33. Web.

the closest Fort Smith Transit bus route. Of particular note was whether these populations lived within a quarter-mile buffer zone of any given Fort Smith Transit bus route due to the limited physical mobility of these groups.

These methods provided a well-rounded analysis of the existing situation. The resulting data will support literature findings that argue senior citizens and disabled populations tend to live farther from public transportation and yet are the most vulnerable in need of services.

## EXPECTED FINDINGS

Findings are expected to re-enforce results of previous outside research and case studies regarding sensitive populations and public transportation access. In addition, it is expected that these sensitive populations in Fort Smith are not being adequately served by current public transportation in the form of longer wait times for buses/infrequent service, inconvenient routes, and disparate station locations. If these findings prove true, specific recommendations will be made in these areas to improve services and access.

## CHAPTER 2:

## BACKGROUND

## HISTORY AND SITE CONTEXT

### CITY OF FORT SMITH

The City of Fort Smith, Arkansas, lies on the juncture of what was once the native lands of the Osage, Caddo, Kiikaapoi (Kickapoo), and Oceti Sakowin (Sioux) peoples.<sup>9</sup> Spanish explorer and conquistador Hernando de Soto is said to have explored as far west as Fort Smith in the 1540s and a member of his exploration crew is rumored to be buried in a cemetery in a town just north of the city.

Fort Smith had a long frontier history after European settler colonization: the fort at Fort Smith was established in 1817 to keep peace between the Cherokee and Osage tribes in the area.<sup>10</sup> In the late 1800s, Fort Smith was considered one of the last ‘civilized’ U.S. Army outposts before crossing the Arkansas River to the border with Indian Territory in what is now known as Oklahoma. Cherokee Nation citizens were marched through Fort Smith into Indian Territory as part of the Trail of Tears. Today, the Trail of Tears Overlook at the Fort Smith National Historic Site seeks to educate visitors about The Five Civilized Tribes removed to Indian Territory.<sup>11</sup>



*Context map of Arkansas and surrounding states (GoogleEarth Pro)*

<sup>9</sup> Native Land. <https://native-land.ca>

<sup>10</sup> Encyclopedia of Arkansas. “Fort Smith (Sebastian County).” <https://encyclopediaofarkansas.net/entries/fort-smith-988/>

<sup>11</sup> Fort Smith, Arkansas. “Trail of Tears Overlook.” <https://www.fortsmith.org/trail-of-tears-overlook/>





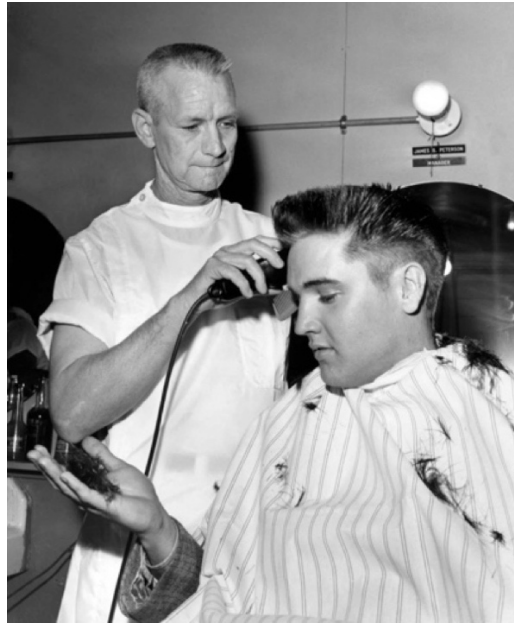
Context map of City of Fort Smith (GoogleEarth Pro)

In the 1870s, progressive Judge Issac C. Parker presided as U.S. District Judge for the United States District Court for the Western District of Arkansas. He became known for his high record of convicting guilty prisoners to hang in the gallows. Lesser known to history is that Judge Parker spoke out about the unfair treatment of Native tribes in Indian Territory. The City of Fort Smith garnered popularity as the setting for *True Grit*, a 1968 novel written by Charles Portis and the 1969 film that followed featuring John Wayne. In 2007, after a nationwide search, Fort Smith was selected as the home for the future U.S. Marshals Museum.

Bass Reeves was the first African-American deputy U.S. marshal to serve west of the Mississippi River. He was born a slave just north of Fort Smith in Crawford County, escaped slavery by living with the Cherokee, Creeks and Seminoles tribes across the river in Indian Territory, and gained his freedom during the Civil War. Because Reeves became fluent in the Indian languages, he was recruited as deputy U.S. Marshal.<sup>12</sup>

<sup>12</sup> Wikipedia. "Bass Reeves." [https://en.wikipedia.org/wiki/Bass\\_Reeves](https://en.wikipedia.org/wiki/Bass_Reeves)

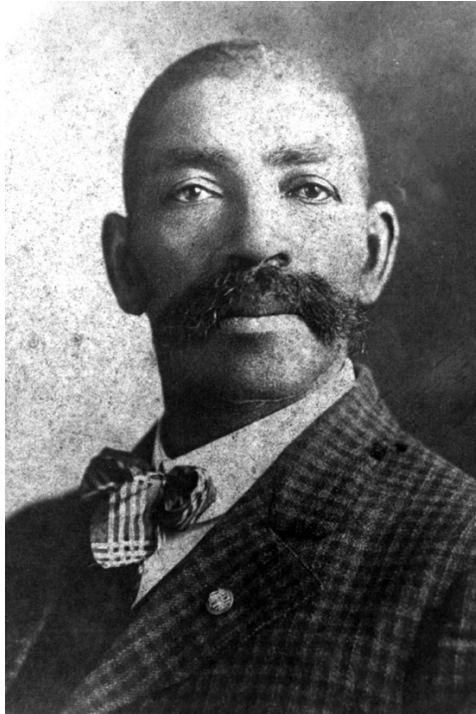
There is a life-statue of Reeves in downtown Fort Smith today. In 1941 on the eve of World War II, the Department of War built Fort Chaffee on land acquired on the east side of Fort Smith to build a new Army base. It served as a training and POW camp. Elvis Presley was assigned there to train for the Army; there is a famous picture of him getting his hair cut in the camp's barbershop.



*Elvis Presley getting his hair cut for the Army at Fort Chaffee  
(RareHistoricalPhotos.com)*



*Fort Smith National Historic Site (TripAdvisor.com)*



*Bass Reeves (Wikipedia.com)*



*Statue of Bass Reeves in downtown Fort Smith (courtesy of Enid News & Eagle )*



After decommissioning in the 1960s, Fort Chaffee “processed 50,809 refugees of the Vietnam War”<sup>13</sup> and later became a resettlement center for Cuban refugees. In 2005, refugees from Hurricane Katrina were also processed there and for a short time they were housed at Fort Chaffee. Generations of immigrants from Laos and Vietnam chose to stay and raise their families in Fort Smith during the Vietnam War, and many refugees escaping Hurricane Katrina stayed on in Fort Smith as well. Today, redevelopment and revitalization of Fort Smith continues with the Fort Chaffee Redevelopment Authority and its creation of Chaffee Crossing, a new progressive mixed-use development site.

In the past five to seven years, Fort Smith has been in the midst of a revitalization. In that timeframe, there has been a rediscovery and renewed energy starting with downtown redevelopment thanks in part to local non-profit 64.6 Downtown. The organization was formed by local Fort Smith businessman Steve Clark; its goal is to create exciting and dynamic placemaking and stimulate economic growth. The organization has done this by overseeing a number of large-scale public works projects downtown and by tapping into local resources—beginning with The Unexpected project. The Unexpected project annually unveils new surprise large-scale murals by local and international artists at prominent locations around downtown. The project has spurred residents to walk the city again, especially downtown, and rediscover local history that has been depicted and reinterpreted. The project has gained national and international press and has drawn tourists from all around the world. Below are just a few of the murals in downtown Fort Smith as part of The Unexpected project.

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<sup>13</sup> *Encyclopedia of Arkansas*. “Fort Chaffee.” <https://encyclopediaofarkansas.net/entries/fort-chaffee-2263/>



*"American Heros" by Guido Van Helten (unexpectedfs.com)*



*"War Paint" by D\*Face (unexpectedfs.com)*

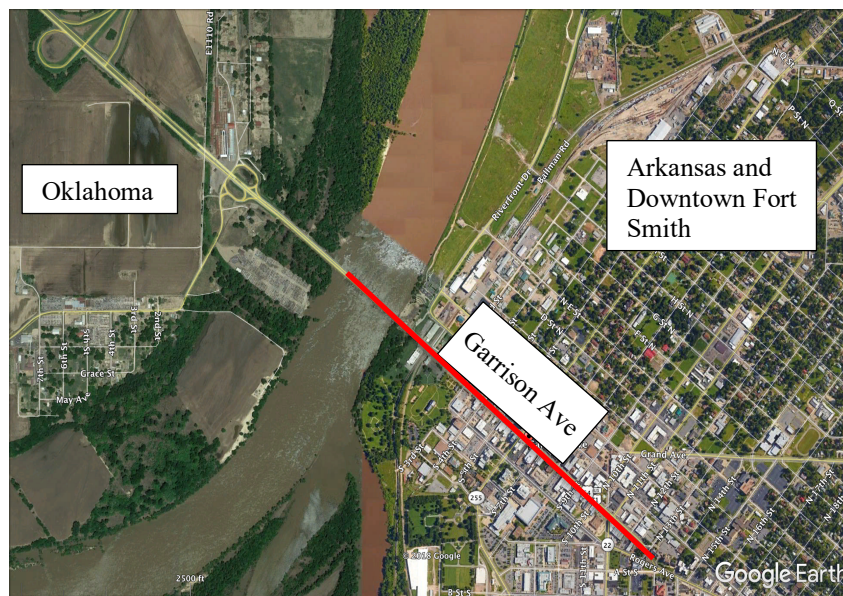
This revitalization effort particularly stems from Fort Smith's downtown historic core and main street—Garrison Avenue—which stretches to the Arkansas River before crossing into Eastern Oklahoma. Fort Smith is a former blue collar and factory town that is starting to see newer investments in other sectors such as health care. This could continue the trajectory of economic development and sense-of-place that has already begun.

Garrison Avenue is the main street of downtown Fort Smith and the central economic hub. Leading from the footprint of the original fort and Judge Parker's courthouse along the Arkansas River in what is now known as the Fort Smith National Historic Site, Garrison Avenue is one of two main parallel roads at the center of downtown. Garrison Avenue is also known as U.S. Highway 64 and crosses the Arkansas River from Oklahoma into Fort Smith. Garrison Avenue has served as a main point of commerce and tourism since the founding of the city.

## GARRISON AVENUE

One of the biggest current issues with mobility and public transportation in downtown Fort Smith is the fact that Garrison Avenue serves as a main corridor and truck route for trucking companies (64.6 Downtown and Gateway Planning, 2017, p. 45). Garrison Avenue runs east-west as a downtown main street. At the far west end, it crosses the

Arkansas River into Oklahoma; from there, it is a short distance to access I-40 interstate, the main interstate running east-west across Arkansas. From the inception of Fort Smith as a city, Garrison Avenue was always the main thoroughfare for shopping, dining, saloons, and brothels. Streets in Fort Smith fan out in a gridded pattern north and south of Garrison Avenue into Belle Grove Historic District, into some of the earliest residential neighborhoods to the north and the city's manufacturing and industrial areas to the south. Garrison Avenue is wider than a typical downtown street because it once contained the city's earliest public transportation system: a downtown electric trolley similar to the ghost tracks that still run through the middle of University Avenue in Eugene, Oregon. The corridor today contains a number of restaurants, bars, and retail storefronts and is part of the city's downtown revitalization focus. Because Garrison Avenue is also a U.S. highway, the original street paving bricks have been covered with asphalt and the corridor is heavily used by several local manufacturing trucking companies. Garrison Avenue is wide and traffic on it travels fast despite several stoplights along its length; due to its width, it takes longer for pedestrians to cross. Several residents have been injured and even killed.



*Garrison Avenue running west across the Arkansas River to Oklahoma, scale 2500 ft*

Any proposals for new transportation access downtown will need to address the efficiency and timing concerns of trucking companies who are hesitant to relinquish use of the U.S. highway. Instead, alternate shipping transportation routes satisfactory to all stakeholders will need to be proposed so that trucks can be diverted from the historic downtown.

## HISTORY OF PLANNING EFFORTS



*Early Garrison Avenue, undated (Experience Fort Smith)*



*Looking south on First Street, man standing in front of T.H. Harrison Saloon. Circa 1896. (Fort Smith Historical Society Inc., Fort Smith Public Library)*





**Garrison Avenue . . . Belly Deep in Mud (1870)**

*(Fort Smith Historical Society Inc. – The Journal, April 1990; UAFS Library)*



*R. Landry's New Orleans Cafe on Garrison Avenue (cimls.com)*



*Garrison Avenue, downtown Fort Smith (Best Hotel, YouTube.com)*



*Cisterna Park and North 10<sup>th</sup> Street, downtown Fort Smith (courtesy Jennifer Kohnke)*

In 1977, the American Institute of Architects (AIA) visited Fort Smith at the behest of local Fort Smith architects, planners, and business leaders. These residents requested the AIA perform a site analysis of downtown Fort Smith along with a proposed master plan and recommendations to increase economic vitality. The result was an eighty-three page document called *A Study of Garrison Avenue and the Central Business Improvement District: A Study of Garrison Avenue, Fort Smith, Arkansas*, (AIA R/UDAT, 1977). The study analyzed opportunities and barriers to development, provided both economic and urban redesign recommendations, and stated existing socioeconomic data of the time. There is still a question as to whether many—or any—of the recommendations were implemented.

The history of Fort Smith Transit began in 1996 when the City of Fort Smith sought to create a citywide transportation network to meet residents' needs. The city entered a contract with a private service called Community Resource Group (CRG) to begin serving the city.<sup>14</sup> According to “Fort Smith Transit: Paratransit Plan of the Fort Smith Transit (FST)”:

*“The CRG began its initial service in Fort Smith with five 25 passenger buses...CRG chose to serve the Fort Smith residents by operating their entire fleet as demand response. In August of 1997, the City of Fort Smith assumed all operations of the CRG system. Upon separation of the private enterprise, what was known as the Fort Smith Public Transit became the City of Fort Smith, Transit Department or Fort Smith Transit... in 1998... Demand response services began operating in two different directions, clockwise and counter-clockwise. Routine points of interest were identified using this method of transportation which ultimately lead to the development of the fixed route system. The fixed routes were implemented in June of 1999 and expansion routes were added in 2001... Ridership has been on a steady incline since inception of the fixed routes... In 2008 FST modified its paratransit system operations from the traditional hub and spoke fashion to a route assignment method to reduce the number of transfers and provide more efficient ride times for passengers. FST tightened its controls throughout the eligibility re-certification process to render availability for additional paratransit registrants. Some additional services were trimmed back to accompany the recertification process at that time.”<sup>9</sup>*

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<sup>14</sup> City of Fort Smith, Arkansas. (2019). Fort Smith Transit: Paratransit Plan of the Fort Smith Transit (FST). Transit Department. [http://www.fortsmithar.gov/index.php/component/jdownloads/send/30-transit/2957-ada-paratransit-plan?option=com\\_jdownloads](http://www.fortsmithar.gov/index.php/component/jdownloads/send/30-transit/2957-ada-paratransit-plan?option=com_jdownloads)

In 2017, under the direction of local non-profit organization 64.6 Downtown and independent planning consultancy firm Gateway Planning from Dallas, Texas, residents of Fort Smith were invited to participate in a community design charrette; visioning exercises helped to establish community identity and a cohesive vision for the future. Through a series of design workshops and brainstorming, the resulting feedback became the basis of a published document titled *Propelling Downtown Forward: A Downtown Initiative: Fort Smith, Arkansas*. This document can be found on the City of Fort Smith website. In the document, residents developed a Master Plan for the City including a vision for future mobility and transportation. One of the transportation suggestions provided by stakeholders was that the historic trolley route should be re-envisioned as a viable form of public transportation; currently, it serves only as a tourist attraction (64.6 Downtown and Gateway Planning, 2017, pgs. 14 & 37). This suggestion is in line with the original historic use of the trolley beginning in 1893 when the first electric trolleys transported residents along Garrison Avenue ([www.fstm.org](http://www.fstm.org)). This trolley system was one of the first substantial measures taken toward planning in Fort Smith.

The results from the charrettes showed that a major concern by residents is pedestrian safety. Due to the current width of Garrison Avenue, vehicular traffic travels at high speeds (64.6 Downtown and Gateway Planning, 2017, p. 45). The avenue also serves a high volume of traffic. “Garrison Avenue is a primary traffic artery handling over 20,000 vehicles a day, many of which are passing through the community. A major challenge for this corridor relates to the truck traffic that passes through destined to industrial businesses and services within Downtown,” (64.6 Downtown and Gateway Planning, 2017, p. 46). Community stakeholders present at the design charrettes provided feedback for the type of transit station amenities they would like to see downtown.



## EXISTING CONDITIONS

### CONTEXT

The City of Fort Smith Planning Department classifies the city into a number of different development zones. These zones are mixed-use industrial, open space, general commercial, mixed-use residential, regional center, public/institutional land, residential attached, office research, office research and light industrial, greenway/parks, industry, extra territorial jurisdiction (ETJ) commercial neighborhood, commercial neighborhood, ETJ light industrial, and residential detached. These zones help explain the existing bus route patterns currently serviced by Fort Smith Transit.

The City of Fort Smith lacks a large-scale public bus system with sufficient frequent routes. Although it requires further study, an additional concern is that the existing transportation system network in Fort Smith does not adequately access the sensitive populations in this study; therefore, it does not sufficiently serve their needs. The City of Fort Smith operates a fixed bus transit system called “Fort Smith Transit.” This transit currently operates Mondays through Saturdays during average workday times. Of the six routes currently in operation, five of them “begin and end Downtown, allowing for transfers,” (64.6 Downtown and Gateway Planning, 2017, p. 57). A map entitled “Fort Smith Transit Department Fixed Route Bus System” found on the City of Fort Smith website visually confirms the five downtown bus routes currently operated by Fort Smith Transit.



*Fort Smith Transit Department Fixed Route Bus System map ([fortsmithar.gov](http://fortsmithar.gov)). See Appendix F. Fort Smith Transit Department Fixed Route Bus System.*

Per the Fort Smith Transit Department Fixed Route Bus System map, all but one route operate Monday through Saturday from 7:00 am to 6:00 pm; the other route only operates Monday through Fridays during the same time frame. Outside of the downtown area only one route travels throughout the north end of town; three routes cover the east and southeast, and two others take passengers into the southern part of the city. Bus route transfer times appear to be approximately once per hour. Along most of the streets, bus travel is in only one direction except on the busiest corridors where buses travel in both directions.

## CHAPTER 3:

## LITERATURE REVIEW

## THEORETICAL FRAMEWORK

In the city of Fort Smith and in particular for disabled and senior citizen residents, these populations and others have every right to equal and equitable access to public transportation services as any other resident. These populations should be able to count on a reasonable travel distance from home to bus stop, count on buses arriving in a timely manner, and that riders can expect to be dropped off close to their desired destination. The unique physical challenges for the disabled and senior citizens regarding mobility should not hinder them from arriving at their destination. Behind the concept of equal access to the city for all peoples lies several ideas, namely issues of transportation equity and mobility justice, a “right” to the city, and general planning theory. Several notable writers on these subjects are Henri Lefebvre, I. Marion Young, Susan Fainstein, Edward W. Soja, and Jon E. Burkhardt.

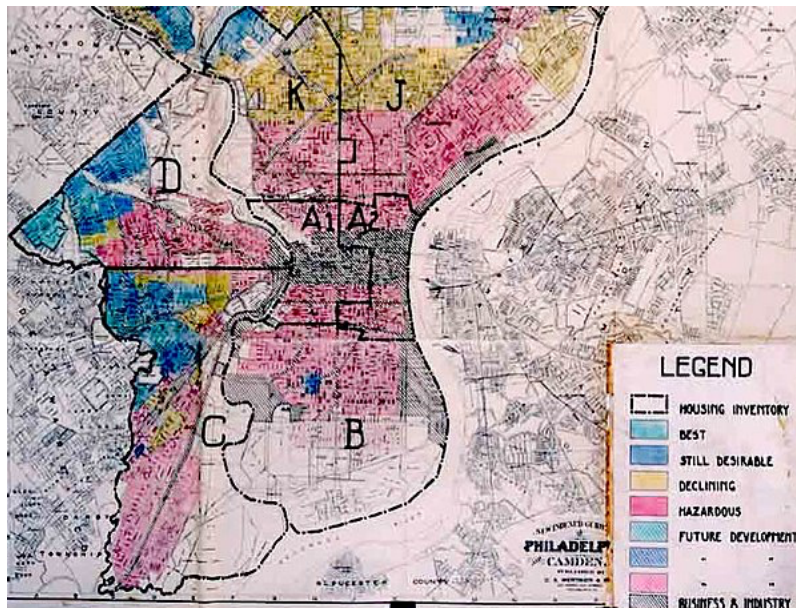
One of the first modern-day conceptualizers of the idea that every individual deserved equal access to the place in which they lived was writer Henri Lefebvre. In 1967 he published the article “Le droit a la ville” (“Right to the City”) in the French journal *L’Homme et la Societe* (“Man and Society”).<sup>15</sup> In his article, Lefebvre wrote about a need to redefine cities as spaces that are created by multiple entities and peoples to make it into a space that benefits all. Lefebvre wrote that cities were becoming increasingly unequal spaces (spatial inequalities). In this same way, the City of Fort Smith is prone to having developed spatial inequalities either consciously or unconsciously that pose challenges for particular population segments. In addition to physical spatial inequities, many cities have been created *for* people who hold positions of privilege and power *by* these very same people. A perfect example of this is the concept of redlining.

As defined by the *Consumer Compliance Handbook* of the U.S. Federal Reserve, redlining is described as “the practice of denying a creditworthy applicant a loan for

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<sup>15</sup> Lefebvre, Henri. “Le droit a la ville.” *L’Homme et la Societe*, no. 6, (1967): 29-35.

housing in a certain neighborhood even though the applicant may otherwise be eligible for the loan. The term refers to the presumed practice of mortgage lenders of drawing red lines around portions of a map to indicate areas or neighborhoods in which they do not want to make loans,” (2006, p. 1). In the post-World War II era and through the 1960s and 1970s, the practice of redlining was upheld by local real estate agents who used the drawn maps to steer families of color away from desirable (“White”) neighborhoods. Banks and other loan lenders participated in the practice as well by refusing to loan money to non-Whites for the purchase of new homes.



Map from Home Owners' Loan Corporation showing redlining in the city of Philadelphia, 1936  
(<https://en.wikipedia.org/wiki/Redlining>)

Iris Marion Young discusses the concepts of exclusion in planning decisions and touches upon the idea that political discourse is inherently biased in her 2002 book, *Inclusion and Democracy*.<sup>16</sup> In it, she provides suggestions for methods that are more inclusive of populations and argues for the concept known today as equity: that is, creating systems or tools that enable populations that have historically been

<sup>16</sup> Young, Iris Marion. (2002). *Inclusion and democracy*. Oxford: Oxford University Press. ProQuest eBook Central.

discriminated against to have the same levels of opportunity as those who have historically held power. Although more research needs to be done in this area as part of Future Research, others may want to consider within the scope of planning decision making in Fort Smith and who has—and hasn't--been traditionally involved in the process. Within the confines of Fort Smith's city limits, populations of senior citizens and the disabled are expected to live more or less within the vicinity of a close bus stop. A study of GIS data will confirm approximately where these populations are located at the block group spatial data level in relation to Fort Smith Transit public transportation routes.

In his paper entitled, "Transit Access and Population Change: The Demographic Profiles of Rail-Accessible Neighborhoods in the Washington, DC Area," Brian McKenzie writes that his findings show that demographic populations who live closest to rail station hubs differ from populations found elsewhere in the city. For example, studies show that younger and more educated residents live closest to transit centers (McKenzie, 2015, p. 1). This lends itself to the idea that minority and disabled populations live farther from public transportation hubs and therefore have a greater need to access these systems.

An article by Ruth Neal for the *Transportation Equity* newsletter reveals stark and specific data on discrimination of minority groups in public transportation. She writes:

*"... According to 1991 and 1992 census data collected in its Survey of Income and Program Participation (SIPP), African Americans and other minorities are over represented among the disabled. The rate is highest among Native Americans (21.9%), followed closely by African Americans (20%). Census data further revealed that the rate of severe disability is highest among African Americans (12.2%), followed by Native Americans (9.8%). Data also revealed a higher level of disability among women, with minority women, Native Americans (21.8%) and African Americans (21.7%) leading the pack," (Neal, 2001, p. 1).*

Neal goes on to explain that African-American women—and particularly, disabled African-American women—are the most likely to be discriminated against because

they have all three discriminatory factors against them: being disabled, being a minority, and being female (Neal, 2001, p.1).

Discrimination against minority populations does not just involve behavioral and related customer service measures. Infrequent service times and inequitable routes for minority populations also means they are at a greater disadvantage for access to healthy food and employment options. In “Considering Public Transit: New Insights into Job and Healthy Food Access for Low-Income Residents in Baltimore, Maryland,” Plano, Darby, Shaffer, and Jadud write that a large number of minority populations depend upon public transportation systems for access to these basic needs (2015, p. 65).

As examples of places where public transportation options have been seamlessly provided for residents, Burkhardt states case studies in Uppsala, Sweden; Mesa, Arizona; Big Stone Gap, Virginia; and London, England, (2003, pp. 107-8). Brian McKenzie notes successful case studies around the metro Washington, DC, area including Fairfax County, Virginia; Montgomery County, Maryland; Prince Georges County, Maryland; and Alexandria City, Virginia, among others (2015, p. 1).

Other researchers analyzed the effectiveness of equity issues in transportation planning; they also monitored follow-up studies to determine how these are being measured. In their article, “Integrating Social Equity into Urban Transportation Planning,” Manaugh, Badami, and El-Geneidy find that measuring the effectiveness of equity outcomes are often not a priority; instead, jurisdictions tend to place emphasis on environmental issues and reducing carbon pollution from personal vehicles (2015, p. 167). In their study, they evaluated the effectiveness of equity measures in eighteen large metropolitan areas in North America. Their findings revealed this lack of attention to the problem; the findings pose both solutions and ways to “better [integrate] social equity into urban transportation plans,” (Manaugh, Badami, and El-Geneidy, 2015, p. 167).

## CHAPTER 4:

## FINDINGS



The senior citizen and disabled populations of Fort Smith encounter equity barriers to public transportation in different ways. Both populations are similar in that they may encounter mobility challenges that make it difficult for them to travel a reasonable distance from their homes to the closest bus route. In addition, there may be timing issues in which it simply takes them longer to travel from Point A (e.g., place of residence) to Point B (e.g., the bus stop). However, some senior citizens may actually be quite physically mobile and so for them timing is not an issue; however, they may be dependent on public transportation because it is no longer safe for them to drive—or it may just be more convenient to take public transportation instead. Also, those who have disabilities may not be physically challenged but they could be mentally challenged or vice versa. So, while both populations might potentially encounter the same mobility challenges this also might not be the case. Either way, both groups may be limited by their levels of personal independence and therefore rely on public transportation.

Another challenge unrelated to the physical mobility of these two populations is that as residents expand eastward within the City of Fort Smith's boundaries, infrastructures such as the public transportation system have not always caught up with ridership need.

## CONTENT ANALYSIS

A content analysis was performed on several transportation related documents provided by the City of Fort Smith, the State of Arkansas, and regional planning organizations. The purpose of the content analysis is to determine the extent to which city and regional municipalities have prioritized the concepts of justice, equity, and civil rights for riders of Fort Smith Transit based on the terminology used in their official documents; this is reflected in the organizations' written regulations and codification. This prioritization is demonstrated through the frequency of particular words, terms, phrases, or intention of meaning used in the documents themselves: the more frequently a term or phrase is used indicates a greater priority of the issue. If not

mentioned, this indicates the concept may not have been considered in the planning process. In performing content analysis, the categories were liberally counted as existing within a given document if there was even a vague indication of the concept within the context of a sentence or paragraph.

In order to properly analyze the transportation documents to determine the extent to which the agencies prioritized particular issues the following categories of terms, phrases, or concepts were considered in this study: transportation justice, civil rights in the South, civil rights in Arkansas, transit equity, mobility justice, and spatial justice. These concepts were selected for research because they indicate consideration of equitable access and accommodation of all member groups. They also indicate an awareness of past histories of lack of equal access to public transportation for others. The usage of these terms in written format are indicators of moving forward to rectify that past. Six documents are provided by the City of Fort Smith via their website (specifically the Transit Department webpage), and one document each is provided by Western Arkansas Planning & Development District and Frontier Metropolitan Planning Organization. The majority of the documents are provided by the City of Fort Smith itself as this is the entity responsible for the operation of Fort Smith Transit; the other sources indicate consideration of these study factors at the regional scale.

The documents selected for content analysis were: “Fort Smith Transit: Paratransit Plan of the Fort Smith Transit (FST) - 2019 [ADA],” “2005-2009 ACS Census data - Languages spoken,” “Title VI Program, Fort Smith Transit: Public Participation Plan,” “Fort Smith Transit: Ride Guide,” “River Valley Transportation Providers,” “Fort Smith Transit: Ridership Satisfaction Survey Summary Report,” and “2040: The New Frontier - Frontier MPO Metropolitan Transportation Plan.”

The methods used to calculate scores are numerical: an indicator score of 0 (“zero”) reflects that the term or concept is not present at all in the document, a 1 (“one”) indicates there is one mention of or reference to the concept, and a score of 2 (“two”) indicates the concept was mentioned two or more times throughout the document.

Normally, intercoder reliability would be performed with at least one other reader to strengthen validity of the data but in this case the content analysis was performed only once. Therefore, it is possible some terminology may have been missed. [See Appendix B for summaries of each of the key policy documents.]

## CONTENT ANALYSIS CODES

### TRANSPORTATION JUSTICE

According to The Praxis Project, a national organization committed to social change, the organization's website describes transportation justice as "an equitable transportation system [which] provides users with access to safe, reliable and affordable modes of transportation including public transit, walking, and biking." The site goes on to say, "Access to transportation is critical to promoting health because it allows individuals to move around freely and connects them to resources such as employment opportunities, schools, healthcare services, and parks and recreational spaces."<sup>17</sup>

### CIVIL RIGHTS IN THE SOUTH

The term Civil Rights is defined by Encyclopaedia Britannica as "[guaranteeing]... equal social opportunities and equal protection under the law, regardless of race, religion, or other personal characteristics."<sup>18</sup> "Civil Rights in the South" refers to Civil Rights in the American U.S. Southern region, specifically, so it is ensuring all peoples are equally protected by federal law within the U.S. South.

### CIVIL RIGHTS IN ARKANSAS

The definition of civil rights is the same as above but "Civil Rights in Arkansas" refers to the protection of these rights specifically as they pertain to individuals within the U.S. State of Arkansas.

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<sup>17</sup> The Praxis Project. "Transportation Justice." <https://www.thepraxisproject.org/transportation-justice>

<sup>18</sup> Encyclopaedia Britannica. "Civil Rights." <https://www.britannica.com/topic/civil-rights>

## TRANSIT EQUITY

According to a paper from the Victoria Transport Policy Institute, transit equity, also known as transportation equity, falls into one of three different classifications: horizontal, vertical pertaining to social class or income, and vertical pertaining to physical ability and mobility.<sup>19</sup> In this case, the latter is most relevant to this study. A paper by Todd Litman describes vertical equity regarding physical ability as being “... concerned with the distribution of impacts between individuals and groups that differ in mobility ability and need, and therefore the degree to which the transportation system meets the needs of travelers with mobility impairments. This definition is used to support universal design (also called accessible and inclusive design), which means that transport facilities and services accommodate all users, including those with special needs,” (Litman, 2020, p. 4).

## MOBILITY JUSTICE

A 2016 conference of justice advocates held in Atlanta, Georgia, developed a document called *Principles of Mobility Justice*. At this conference, they described mobility justice this way: “Mobility justice demands that ‘safety’ and equitable mobility address not only the construction of our streets but the socioeconomic, cultural, and discriminatory barriers to access and comfort different communities experience within public spaces. We must shift focus from the modes of transit people use to the bodies and identities of the people using those modes by centering the experiences of marginalized individuals and the most vulnerable communities. It acknowledges that safety is different for different people, and should be defined by those most economically and legally vulnerable,” (Untokening, 2016).

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<sup>19</sup> Litman, Todd. “Evaluating Transportation Equity: Guidance for Incorporating Distributional Impacts in Transportation Planning.” Victoria Transport Policy Institute (2020): 1-70. Web.

## SPATIAL JUSTICE

The term spatial justice was first developed by planning theorist Ed Soja in his book *Seeking Spatial Justice*. According to the website 100 Resilient Cities, the term refers to empowering the community via the equitable distribution of resources as well as realizing there is more than one accepted user experience.<sup>20</sup> The concept recognizes that spatial relationships create inequalities which are replicated.

## KEY THEMES

There are three major themes that stand out from the content analysis of documents; at least two of these themes nearly directly relate to the senior citizen and disabled populations. These three themes are: 1) awareness of and sensitivity toward vulnerable populations; 2) awareness of the need to reduce barriers; and 3) vocalized support for federal legislation. The themes of awareness of vulnerable populations and reducing barriers both relate to senior citizens and the disabled because both of these populations are considered vulnerable. Both groups would also benefit from a reduction of barriers to accessing public transportation. However, even the theme of support for federal legislation may indirectly apply to these populations if the particular legislation results in a benefit to senior citizens or the disabled.

## AWARENESS OF VULNERABLE POPULATIONS

The first theme, awareness of and sensitivity toward vulnerable populations, is indicated in three of the documents: “Fort Smith Transit: Ridership Satisfaction Survey Summary Report,” “River Valley Transportation Providers,” and “Fort Smith Transit: Public Participation Plan.” This theme is referred to several times in the document titled “Fort Smith Transit: Public Participation Plan.”

In “Fort Smith Transit: Ridership Satisfaction Survey Summary Report,” the document states: “Most of the on-demand riders had some sort of a disability,” (Fort Smith

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<sup>20</sup> Twombly, S. “Teaching Spatial Justice.” (2014). 100 Resilient Cities. <http://www.100resilientcities.org/teaching-spatial-justice/>

Transit, 2018, p. 4). The report writers did not indicate how the disabilities of respondents were determined but the report was based on a survey of riders; therefore, the presence of a disability was likely self-indicated. Still, it is important to note that analysis of the survey results indicates awareness of this vulnerable population.

In “River Valley Transportation Providers,” the document states: “The formation of the River Valley Transportation Providers has been effective in the dissemination of classified informational documents relating to the nations [sic] security since 9-11 and proved valuable during the relief efforts of Hurricane Katrina,” (City of Fort Smith, n.d., p. 1). This statement vaguely refers to the concept of transit equity and by extension, awareness of vulnerable populations—in this case, Hurricane Katrina evacuees--through the Providers’ work in making sure this vulnerable population received information it needed in a timely manner. Although the document does not specifically refer to senior citizens or the disabled, the awareness of the needs of vulnerable populations in general is key.

Finally, the document “Fort Smith Transit: Public Participation Plan” refers to vulnerable populations in three different places. First, it states: “Efforts will be made in the transportation planning and programming process to: Assure participation by traditionally underserved individuals, including elderly, low income and minority individuals, persons with disabilities, and persons with Limited English Proficiency (LEP). Ascertain what Non-English languages and barriers exist to provide participation in the Fort Smith area. Provide public meeting notifications in a manner comprehensible to all populations in the service area. Provide transportation to public meetings free of charge. Apply any and all concerns received from all populations on an equal manner,” (City of Fort Smith, 2017, p. 1). This statement directly refers to senior citizens (“elderly”) and “persons with disabilities”; it refers to other vulnerable populations as well so there is direct reference to the need for involvement of these populations in the planning process. There is no mention of the need to make the spatial design of buses more equitable or to otherwise ensure physical access to these

populations in some way although the statement says they will assess what barriers may exist.

The second statement in “Fort Smith Transit: Public Participation Plan” is one of several in a bullet-point list that indicates in part: "...Seek out and consider the needs of those traditionally underserved by existing transportation systems, including but not limited to low-income and minority households," (City of Fort Smith, 2017, p.8). This statement is referring to transit equity but it also indicates an awareness of and sensitivity to the needs of multiple types of vulnerable populations.

The third and final reference to vulnerable populations in the same document is: "Pursuant to Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, dated February 11, 1994, and the subsequent U.S. Department of Transportation Order 5680.3, issued April 15, 1997, FST promotes Environmental Justice in all aspects of the transportation process," (City of Fort Smith, 2017, p. 4). This statement refers to the awareness of and need for protections of all populations.

## NEED TO REDUCE BARRIERS

All three documents contain references to an awareness of reducing ridership barriers. The document titled “Fort Smith Transit: Ridership Satisfaction Survey Summary Report” states as part of its conclusion, “More assessments for reducing transportation infrastructure barriers and improving transit for the community are recommended," (City of Fort Smith, 2018, p. 18). This quote is directly stating the need for reducing barriers to ridership.

There are a few quotes contained in the document “Fort Smith Transit: Public Participation Plan” which indicate an awareness and prioritization of the need to reduce barriers. One of the quotes references transit equity for riders. This quote states: “Fort Smith Transit has identified agencies receiving transit voucher assistance through the Transportation Assistance Program (TAP) as stakeholders. TAP agencies

provide great insight into the transportation needs of their clients. These agencies have been and continue to be instrumental in overcoming barriers that may not be understood by officials more familiar with the provisions of transit services. Appendix B is a list of TAP agencies/stakeholders for the Fort Smith Transit Department,” (City of Fort Smith, 2017, p. 2). The quote is referring to a need for the use of vouchers in the form of payment for riders who cannot afford the bus fare; it also indicates overcoming any existing barriers for riders outside of cost. Both instances indicate that addressing barriers which limit passenger ridership or produce hardships for them is a priority for Fort Smith Transit.

The other quote in “Fort Smith Transit: Public Participation Plan” which indicates an awareness and prioritization of the need to reduce barriers states, “The Transportation Assistance Program (TAP) was formed by the Transit Advisory Commission to provide local human service agencies with limited free transportation vouchers to assist their clients in obtaining public transportation to access basic services in emergency situations. The TAP program was developed following numerous requests from agencies and individuals indicating the base transportation fare presented a barrier in obtaining basic needs. Human service agencies may complete an application for commission consideration and must present information regarding their agency’s needs and services. Each participating agency establishes select criteria for determining client eligibility. Approved agencies are issued an allotted quantity of tickets per month and are required to document the necessity of each passenger trip as it relates to the program purpose. Transportation vouchers will not be issued directly to individuals from the commission or Fort Smith Transit. Please contact the Transit Department at 783-6464 for more information pertaining to the program,” (City of Fort Smith, 2017, p. 9). This quote, like the first, is also a reference to transit equity issues for riders. The second quote specifically notes the Transportation Assistance Program again and its vouchers as a method to overcome fee cost barriers.

Finally, three separate quotes in the document titled “Fort Smith Transit: Ride Guide” refer to an awareness of the need to reduce barriers for transit riders. The first quote



states: “For Hearing Impaired- Dial 7-1-1 For Arkansas Relay Service,” (City of Fort Smith, 2016, p. 1). Although the statement is direct and to the point it highlights a transit equity issue for the hearing impaired by providing an alternative method of information access. The lack of information access can, in itself, be a barrier for the hard of hearing. A second quote says, “A separate brochure titled “Fort Smith Transit Passenger Regulations” is available upon request and can be provided in an alternate language or braille,” (City of Fort Smith, 2016, p. 4). This statement like the one proceeding it refers to alternative methods of information access for those with sight limitations or blindness; the availability of a document in braille will reduce barriers for that population. Finally, the third quote says: “Please contact the transit office should you need special assistance,” (City of Fort Smith, 2016, p. 4). Although this statement is vague in many ways, it indicates a willingness of Fort Smith Transit to be available for any additional ridership needs thus further reducing barriers.

#### SUPPORT FOR FEDERAL LEGISLATION

Regarding stated support for federal legislation to ensure passenger civil rights, the document “Fort Smith Transit: Public Participation Plan” references nearly the same quotation twice.

The first time Fort Smith Transit refers to the Safe, Accountable, Flexible, Efficient Transportation Equity Act, the agency produces the statement in full. The full statement says: "As delineated in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), federal law and regulations require a planning process be conducted to consider projects, planning strategies, and implementation methods that will: 1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency; 2. Increase the safety of the transportation system for motorized and non-motorized users; 3. Increase the security of the transportation system for motorized and non-motorized users; 4. Increase accessibility and mobility; 5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between

transportation improvements and State and local planned growth and economic development patterns; 6. Enhance the integration and connectivity of the transportation system, across and between modes; 7. Promote efficient system management and operation; and 8. Emphasize the preservation of the existing transportation system,” (City of Fort Smith, 2017, p. 3).

Taken as a whole, the full statement acknowledges overall an adherence to federal guidelines and by extension suggests an abidance by them. The second time these federal guidelines are referenced is also on page three but here the full statement is abbreviated. Instead of the full statement referenced above this quote says: “As delineated in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), federal law and regulations require a planning process be conducted to consider projects, planning strategies, and implementation methods that will: ...Increase accessibility and mobility,” (City of Fort Smith, 2017). Here, the statement only refers to the barrier of increasing accessibility and mobility. However, the fact that the federal guidelines are repeated throughout the document indicates Fort Smith Transit recognizes the importance of following these guidelines.

The final indication of Fort Smith Transit’s support for federal legislation or guidelines is indicated in the following quote. The quote states: “Pursuant to Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, dated February 11, 1994, and the subsequent U.S. Department of Transportation Order 5680.3, issued April 15, 1997, FST promotes Environmental Justice in all aspects of the transportation process. These procedures augment and reaffirm the policy to adhere to and advance the principles of the National Environmental Policy Act of 1969 (NEPA), Title VI of the Civil Rights Act of 1964 (Title VI), the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (URA) as amended, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Transportation Equity Act for the 21st Century (TEA-21) as amended, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and other statutes, regulations and guidance that address or affect

infrastructure planning and decision making; social, economic, or environmental matters; public health; and public involvement. To these ends, notices of meetings and public hearings will be specifically provided in minority and ethnic gathering places to promote participation in the transportation planning process. Minority and ethnic communities will be monitored through census data to guarantee their inclusion in the process as populations fluctuate over time. Special accommodations (e.g. interpreter, sign language interpreter, large print copy, etc.) may be requested of FST during normal business hours at least five (5) business days prior to the meeting. FST will attempt to accommodate all such requests,” (City of Fort Smith, 2017, p. 4). This statement contains within it several references to equity and environmental justice, and the rights of riders as framed by federal legislative policies. Its inclusion within the document and the continued reference back to the transit entity itself (Fort Smith Transit) indicates the importance the provider places on abiding by federal guidelines.

## CONTENT ANALYSIS TAKEAWAYS

The results of the content analysis showed a number of patterns. One was that throughout all the policy documents analyzed, there is repeated indication or reference to the concept of transit equity. Although the term itself is not ever explicitly stated the intention behind the concept is always implied or inferred. There is also repeated reference to the disabled or those with physical mobility challenges. The transit system continually states how it is assisting in overcoming barriers for this population. The content analysis showed the most commonly inferred categories of analysis were transit equity (15+), mobility justice (6), and transportation justice (5+); the least mentioned concepts were spatial justice (4), civil rights in Arkansas (3), and civil rights in the South (2). (Of note: the specific population terms “senior citizens,” “seniors,” and “disabled” or “disability” were not counted although they were occasionally seen in the documents).

## GIS ANALYSIS

A GIS analysis was performed using publicly available U.S. Census data and data requested from the State of Arkansas GIS Office. The GIS analysis visually shows readers where the populations reside spatially in relation to both the six main existing bus routes managed by Fort Smith Transit and necessary basic amenities such as schools, emergency services, and healthcare resources. This analysis is a visual representation of data that was not achievable via in-person interviews or surveys of Fort Smith residents due to the COVID-19 pandemic.

As noted in the Introduction to this paper, populations of senior citizens and the disabled were selected for data analysis. These populations were selected because they both potentially involve mobility issues and share spatial access challenges; therefore, they encounter similar barriers in that sense. Both populations may have a limited distance they are capable of traveling from home to the nearest bus route to reach their intended destination.

In gathering GIS data related to schools, emergency services, and healthcare resources, each of these broad categories was broken down into more specific entities. GIS shape file location data was requested from the State of Arkansas GIS Office on the following: K-12 public school structures, public four-year university structures, law enforcement structures, fire station structures, long-term health care facilities, hospitals, emergency medical services, community health centers, Veterans Affairs, long-term health units, and hospital related services.

For the purposes of GIS mapping, each of the above entities was collapsed into a merged data layer in ArcMap in the following manner. Note that the only exception was for the senior citizen population where K-12 structure data was manually removed from the Schools map due to the unlikelihood of a senior citizen being enrolled in K-12. The Schools layer consisted of K-12 public school structures and public four-year university structures shapefiles; the Emergency Services layer contained Law

enforcement and Fire station structures shapefiles, and the Healthcare layer contained the following health-related GIS shapefiles: Long-term health care facilities, Hospitals, Emergency medical services, Community health center, Veterans Affairs, Long-term health units, and Hospital related services.

GIS ArcMaps was used to display U.S. Census data regarding senior citizens and the disabled in the form of percentage ranges with each block group instead of stating raw number ranges. The rationale for this is that showing percentages will demonstrate how great the existence is (or not) of the populations within the block group as compared to the overall population. Therefore, the percentages more accurately reflect the degree to which the study population is affected by public transportation access. The raw numbers pulled from the census data, while accurate, do not necessarily demonstrate this same degree of the population affected.

The U.S. Census website ([data.census.gov](http://data.census.gov)) was used to find disabled and senior citizen populations in each block group within Fort Smith city limits. The Advanced Search option permitted a search for all block groups in Sebastian County, Arkansas, under the 'Geography' filter. To find data on the disabled, 'Health' and then 'Disability' were selected. The survey years and survey used were the 2018 American Community Survey 5-Year Estimates as this is the most recent data provided for the desired dataset search. There was no data table in the U.S. Census in 2018 that exclusively related to numbers of the disabled so the desired data had to be drawn from the data provided in another table and the results were manually manipulated in a spreadsheet using formulas to achieve the desired data. The U.S. Census data table used to find data regarding the disabled population in Fort Smith was:

- Title: POVERTY STATUS IN THE PAST 12 MONTHS BY DISABILITY STATUS BY EMPLOYMENT STATUS FOR THE POPULATION 20 TO 64 YEARS
- Survey/Program: American Community Survey
- Product: 2018: ACS 5-Year Estimates Detailed Tables
- TableID: B23024
- Universe: Population 20 to 64 years for whom poverty status is determined

The find data on the senior citizen population living in Fort Smith, Arkansas, block groups, the same process was used as above except the topic filters used were 'Populations and People,' 'Age and Sex.' Here, the resulting data was distilled in a spreadsheet to only show residents of the Fort Smith block groups who are aged sixty-five and older. Since the data from the U.S. Census is divided into age ranges at regular given intervals, the data was manipulated using formulas to count the total number of residents aged sixty-five and older. The U.S. Census data table used to find data regarding senior citizens in Fort Smith was:

- Title: SEX BY AGE
- Survey/Program: American Community Survey
- Product: 2018: ACS 5-Year Estimates Detailed Tables
- TableID: B01001
- Universe: Total population

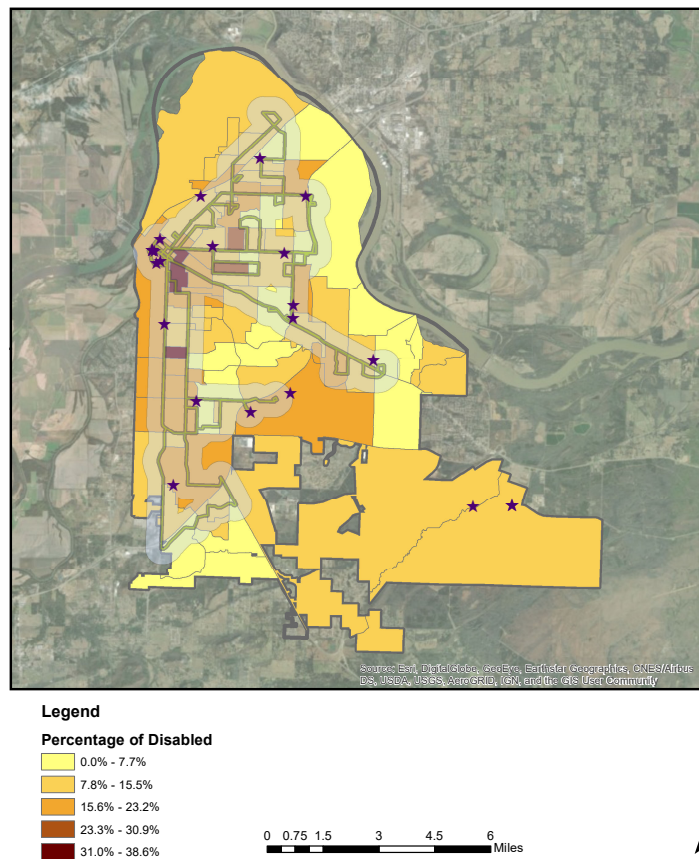
The above data tables were downloaded from the U.S. Census website, imported into spreadsheets, and cleaned and prepared for use in ArcMaps. Note that the margins of error vary widely in the original census data for both data sets and within each block group. Therefore, the accuracy of the data may be low.

In the process of creating the six ArcMaps to show the senior citizen and disabled data, each map has a base layer of a Google Earth image of Fort Smith. The basemap is merged with a block groups polygon (2010) provided by the State of Arkansas GIS Office to create a new layer. This layer is overlaid by another layer showing the census data regarding the respective populations within each block groups; the data are projected using the Equal Intervals classification. The six main bus routes serviced by Fort Smith Transit were individually hand-drawn as separate layers in ArcMaps and then merged into one joined layer for easy readability in the final maps. A one-quarter mile buffer zone was created surrounding all bus routes in order to show the distance these populations live from *any* local bus route. This buffer zone visually represents the suggested maximum distance senior citizens and the disabled should have to travel from their residences to reach the closest bus route line as these populations are

challenged by mobility issues. On all six of the maps, these layers are overlaid with the appropriate merged layers mentioned previously which are categorized as Schools, Emergency Services, and Healthcare.

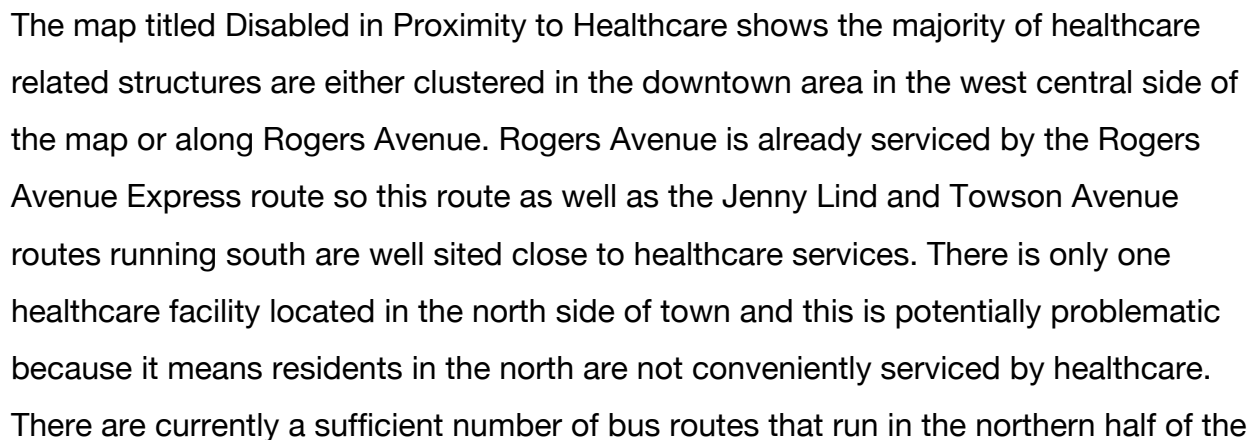
## DISABLED

**Disabled in Proximity to Emergency Services**



The map titled Disabled in Proximity to Emergency Services shows the majority of law enforcement departments or fire stations are located in the downtown corridor in the area of Rogers and Garrison Avenues; this area is well-served by nearly all of the six bus routes which overlap here. In addition, these are also the block groups showing the largest percentage of the disabled so this is good siting of both the routes and the

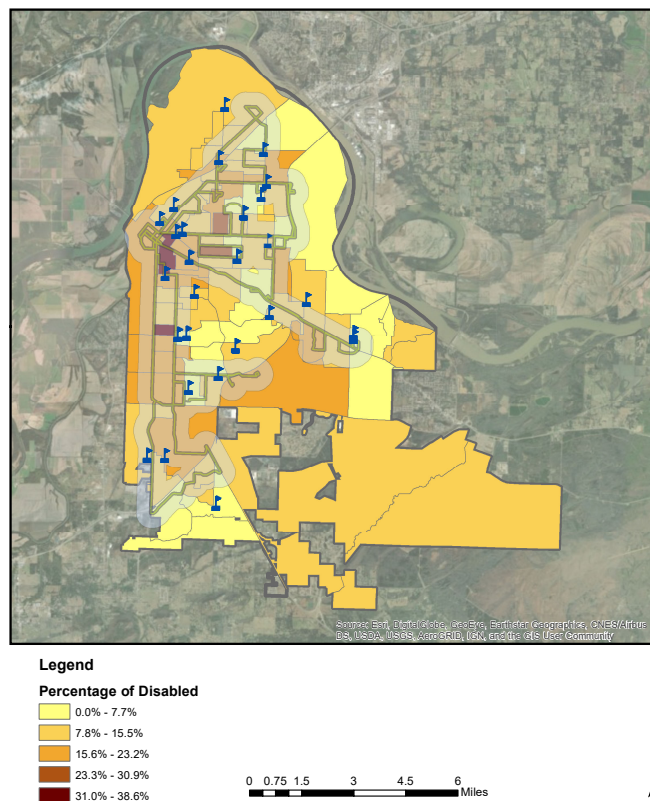
## Disabled in Proximity to Healthcare





city. One healthcare facility lies outside the quarter-mile buffer zone in the southern part of the city which could be a potential access issue for those with mobility challenges; the Jenny Lind route may want to consider shifting a few blocks east to reach this site since the area where it now lies contains the overlap of two quarter-mile buffer zones. On the far east side of town along Rogers Avenue, there is one additional healthcare facility on the border with the City of Barling that is currently outside the scope of any bus route as well as a second site just north of Rogers Avenue. Fort Smith Transit may want to consider extending the Rogers Avenue Express route east to reach this site or also implement a route branch that offshoots Rogers Avenue at a northeast angle to reach the second healthcare facility.

**Disabled in Proximity to Schools**

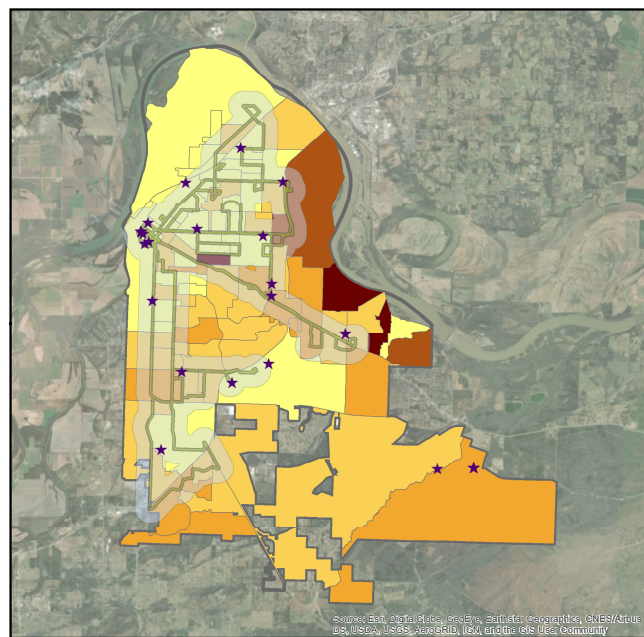


The map titled Disabled in Proximity to Schools shows that the majority of K-12 schools are located within the quarter-mile buffer zone which means they are also

accessible by a current bus route. However, there is a school at both the north and south sides of town as well as two schools outside any bus route or buffer zone in the central part of the city. The current bus routes at the north and south sides of town, Midland Avenue and Jenny Lind, respectively, may want to consider adjusting their routes to accommodate these schools within the quarter-mile buffer zone. For the schools located in the center of town, new eastern lines may need to be added to the Towson Avenue route to accommodate these schools.

## SENIOR CITIZENS

**Senior Citizens in Proximity to Emergency Services**



**Legend**

**Percentage of Senior Citizens**

2.4% - 11.6%

11.6% - 20.7%

20.7% - 29.9%

29.9% - 39.0%

39.0% - 48.2%

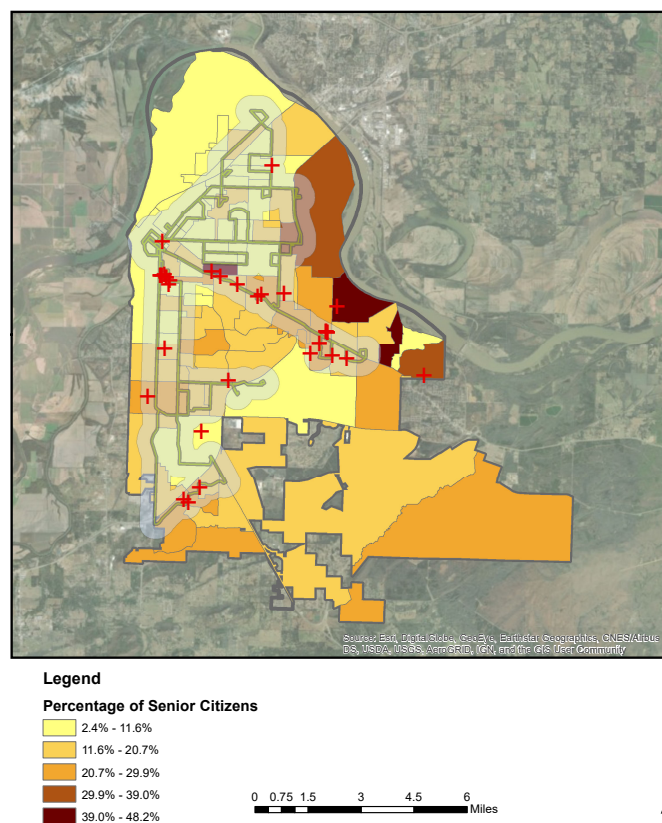
0 0.75 1.5 3 4.5 6 Miles



The map titled Senior Citizens in Proximity to Emergency Services shows the greatest percentage of senior citizens live in the far northeast side of town at the border with the eastern branch of the Arkansas River. It should be noted that no bus route currently

runs to this far northeast side of town for those living in these block groups. A new bus route branch could be extended off of the Rogers Avenue Express route or the Rogers Avenue Walmart Supercenter route to reach these residents. As also noted on the prior Disabled in Proximity to Emergency Services map, there are two additional emergency service locations in the far southeast block group; another route should be extended to reach eastward to these.

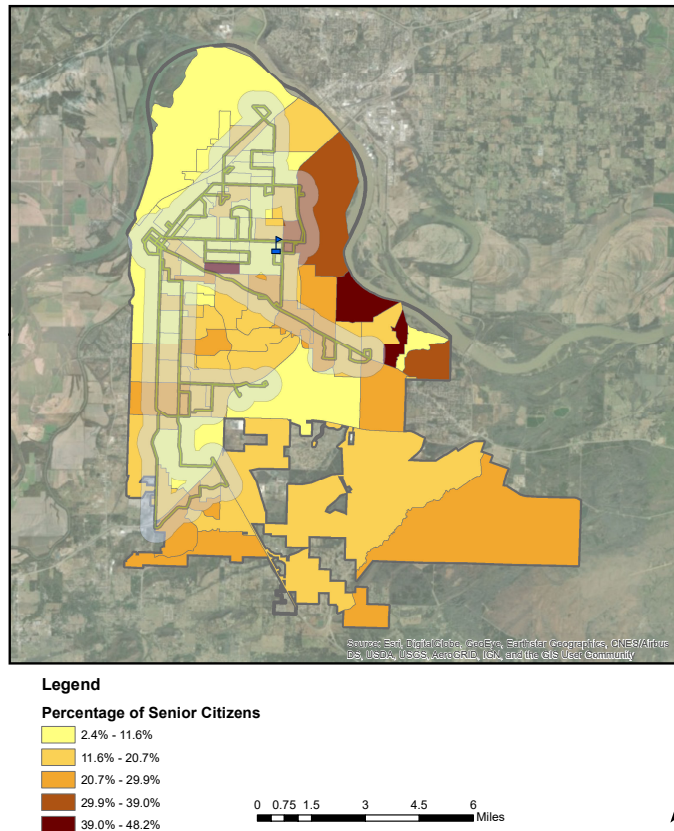
### Senior Citizens in Proximity to Healthcare



As noted in the map entitled Senior Citizens in Proximity to Emergency Services, the maps depicting senior citizens show that the majority of this population lives in the far northeast side of town at the city border. There are two healthcare facilities sited in these densely populated areas that do not have access to a nearby bus route. These

two sites are located closest to the Rogers Avenue Express route so again, a new northeast extension off this route may want to be considered.

### Senior Citizens in Proximity to Higher Education



The University of Arkansas Fort Smith is the only four-year institution of higher education in Fort Smith. It lies within easy access to a number of bus routes serviced by Fort Smith Transit and within several overlapping quarter-mile buffer zones. However, if retired senior citizens want to take or audit university courses there, the greatest percentage of seniors living in the northeast corner of the city are not within a reasonable access of any bus route to reach the university. It is recommended that Fort Smith Transit extend their eastern bus routes into these block groups so that seniors can access university privileges. Seniors living, too, in the southeast corner of

town cannot reach the university as well and so the Rogers Avenue Express route should be extended into these areas.

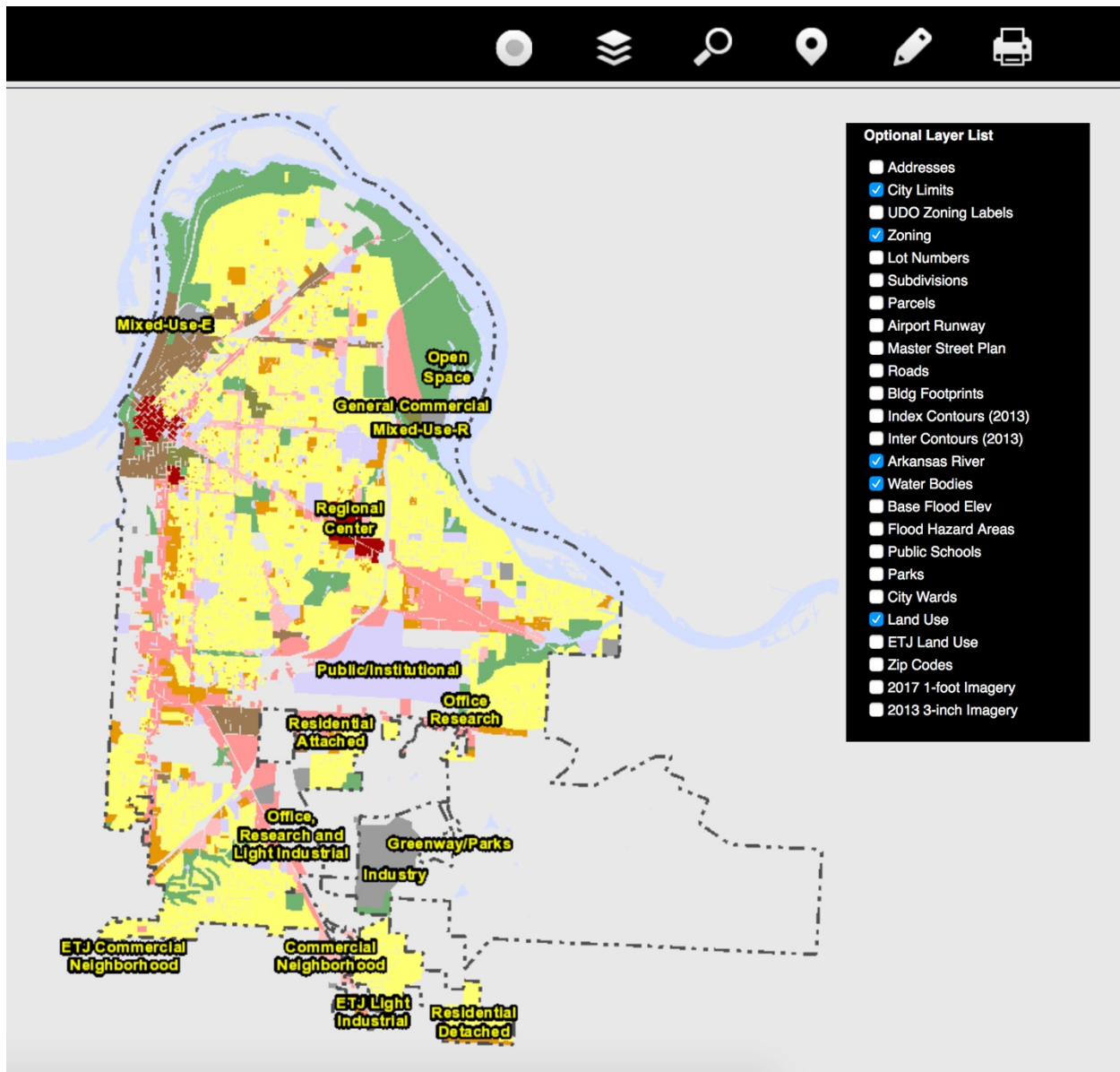
## GIS TAKEAWAYS

The GIS analysis used spatial and U.S. Census demographic data to study the relationships between places of residence of senior citizens and the disabled and basic transportation needs. A few things were noted from the results.

From GIS spatial data, the populations of both groups tend to live primarily in either the center of town or in the same block groups in the far southeast corner of the city. It was also noted that the greatest percentage of senior citizens live on the far northeast side of the city where it borders the Arkansas River; the percentages of senior citizens there range from 20.7% to nearly half the inhabitants of the block group at 48.2%. The greatest percentage of senior citizens live far outside the quarter-mile buffer zone without access to any bus route. Based on the scale of the GIS maps created for this study, senior citizens live three-eighths to three-quarters of a mile from the further edge of the closest buffer zone to the centers of the block groups with the highest percentage of senior citizens. In addition, there are bus routes that need to either be added or extended, mainly on the eastern side of town, to reach these populations.

A side by side comparison of created GIS maps showing block groups with the highest percentages of senior citizens and disabled compared with the GIS parcel zoning map, below, from the City of Fort Smith website shows a few key things.





Web-based Public GIS Viewer map showing City of Fort Smith parcel zoning. No legend or scale provided. (City of Fort Smith, <http://gisapps.fortsmithar.gov/javascript/ParcelMap.html>)

First of all, the greatest percentage of the disabled tend to be clustered mostly in what the city classifies as regional center zoning (in darkest red, below) on the far west side of the city. The next greatest percentage of the disabled live in mixed-use residential (olive green) and commercial neighborhood (yellow) zones, as well as general commercial (pink) and public/institutional zones (lavender). By comparison, the greatest percentage of senior citizens by far live in commercial neighborhood and open

space (green) zones directly along the Arkansas River to the north on the northeast side.

## CHAPTER 5:

## RECOMMENDATIONS AND CONCLUSION



## ROUTE EXTENSIONS

Fort Smith Transit should consider altering a few existing bus routes to better service disabled and senior citizen residents who live outside of the routes. For example, either the Rogers Avenue Express route or the Towson Avenue east branch routes could be extended farther east to run directly to two additional emergency services sites within the southeast corner of the city boundaries. Similarly, Fort Smith Transit should consider shifting the Jenny Lind route a few blocks east to reach a healthcare facility.

The greatest density of senior citizens live in the far northeast side of town at the city border. No bus route currently runs directly to this far northeast side of town. Again, a new bus route branch could be extended off the Rogers Avenue Express route or the Rogers Avenue Walmart Supercenter (“Rogers SC”) route to reach these residents. There are two healthcare facilities sited there that do not have access to a nearby bus route. These two sites are located closest to the Rogers Avenue Express route so again, a new northeast extension off this route should be considered.

## POLICIES

The City of Fort Smith and other regional transportation and planning agencies should continue to make strides that respect the rights and dignity of historically disenfranchised populations by specifically and directly involving these populations in the planning process; that includes members of these populations serving on decision-making councils, etc. Another recommendation is that there should be greater emphasis placed on how the ideal goals stated within the planning documents will be achieved; that is, stated specific actions that will be taken, who will be responsible for the oversight and follow-through of these actions, and to set deadlines by which the goals will be achieved.

Although not specific to the documents analyzed in the content analysis, it was observed via GIS maps that there is only one healthcare facility located in the north side of town. This is potentially problematic because it means residents on the north

side of the city are not conveniently serviced by healthcare providers. The City of Fort Smith should prioritize the construction of multiple new healthcare facilities on the north side of town to sufficiently service these residents.

## LAND USE AND ZONING

As stated earlier, GIS data show the greatest percentage of senior citizens live in block groups at the northeast edge of town bordering the Arkansas River. Residents who live in these block groups are spatially disperse. Personal observation notes that residents living in these block groups tend to be in a higher income bracket than residents in other areas of Fort Smith although a further study of land value overlay of this area needs to be included in order to confirm this observation.

In order for public transportation to function most efficiently and to pay for its cost of operation quicker over the long run, it is more useful for public transportation routes to be sited where population density is highest *and* where residents are more inclined to use it. Therefore, the City of Fort Smith should consider upzoning in this area to encourage greater use of the Fort Smith Transit system by older, wealthier residents living in these block groups. Upzoning the block groups will discourage the number of single-family homes allowed on a lot space and encourage the use of multi-family homes. Townhomes or condominiums can be constructed with a design character that matches homes already present in the neighborhood. Combined with the change in zoning, the city should consider a marketing campaign based on an aging-in-place social support network to attract older retired residents to upscale multi-family housing and away from traditional single-family homes.

## ALTERNATIVE FUNDING

Cities have increasingly limited resources to fund necessary services such a public transportation; the service provided by Fort Smith Transit is no different. Although the focus of this study was not on the particular funding sources that are currently being used to maintain Fort Smith Transit, a research paper by the Arizona Public Interest

Research Group (PIRG) from 2009 highlights alternative funding sources which are still relevant.

In particular, the paper documents in detail funding from other city budget funding sources such as city general funds; additionally, there are a number of fees and tax sources that can be re-routed for support of public transportation. Some of these specifically are gas taxes; a tax on weight of trucking vehicles per mile; title, license, or registration fees, rental car taxes; or battery or tire taxes. It may be more logical that taxes to fund the service come from the land use itself because expansion of public transportation services does involve land use.

In some places cities have implemented real estate transfer taxes or development impact fees paid by developers before construction, or parking taxes.<sup>21</sup> The latter would be more likely to encourage private vehicle owners to take public transportation instead of driving their own vehicles. Additionally, it may be less expensive for the City of Fort Smith to expand further Fort Smith Transit bus routes if existing routes are coordinated with other first-mile/last-mile transportation options. For example, the City of Eugene, Oregon, proposes and markets the use of other transportation options especially for shorter point-to-point distances. Eugene encourages coordinated, formal carpooling and car share programs as well as bike share and biking.<sup>22</sup>

## GREATER REGIONAL COORDINATION

More coordination and contracting with existing transportation services outside of Fort Smith city limits is another option. For example, the Ki Bois Area Transit System (KATS) rural transportation shuttle service serves six counties in eastern Oklahoma<sup>23</sup> and is

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<sup>21</sup> Arizona PIRG Education Fund. (March 2009). "Why and How to Fund Public Transportation." United States Public Interest Research Group. (<https://uspirg.org>)

<sup>22</sup> City of Eugene, Oregon. "Transportation Options." Transportation Department. (<https://www.eugene-or.gov/487/Transportation-Options>)

<sup>23</sup> Ki Bois Community Action Partnership. (<http://www.kibois.org>)

frequently observed across the state line in Arkansas, transporting riders to and from destinations within Fort Smith city limits.

The Ki Bois Community Action Partnership website states: “KATS provides a much-needed service for people who have no dependable form of transportation. It generates income in the community by transporting people to their jobs. It helps people obtain an education by taking them to college and vocational schools. KATS helps all Senior Citizens live more independently by giving them safe, dependable transportation services...KATS provides curb-to-curb or, based on special need, door-to-door, demand response transportation on specially equipped vehicles designed to accomodate [sic] persons with disabilities,” (*kibois.org*). One option would be for Fort Smith Transit to develop a contract with KATS to offer additional transportation services to other destinations for KATS riders within Fort Smith city limits, thereby expanding the network of destination options for KATS clients while generating additional revenue for Fort Smith Transit.

There are a few other public transportation service companies which operate in Northwest Arkansas, approximately sixty to eighty miles north of Fort Smith along the Interstate 49 corridor. These are Razorback Transit, a service of the University of Arkansas<sup>24</sup>, and Ozark Regional Transit, whose service area is within the City of Fayetteville and to neighboring Northwest Arkansas cities of Bentonville, Rogers, and Springdale.<sup>25</sup>

Some students, faculty, and staff of the University of Arkansas commute daily via their personal vehicles the sixty miles from their residences in Fort Smith to and from the University of Arkansas in Fayetteville for work or school. Considering the long distance, time commitment, and both financial and environmental burden to make these trips, the City of Fort Smith should consider creating a subsidiary public transit service of

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<sup>24</sup> University of Arkansas. “Razorback Transit.” *Business Affairs: Transit and Parking*. (<https://parking.uark.edu>)

<sup>25</sup> Ozark Regional Transit. (<https://www.ozark.org>)

Fort Smith Transit to provide Monday through Friday transportation services along this interstate corridor. This, in turn, could provide another source of revenue for Fort Smith Transit. This concept is similar to the regional public transportation models provided by Oregon Express Shuttle and BoltBus. Oregon Express Shuttle is managed by Groome Transportation which runs a route between Eugene, Salem, and Portland, Oregon<sup>26</sup>, and BoltBus which runs regular service between a number of cities along the north-south Interstate 5 corridor in western Oregon and Washington State.<sup>27</sup>

## OTHER CONSIDERATIONS

When overseeing designs or siting resources spatially within the city, planners need to consider the locations of where particular populations live, consider travel times of residents and any barriers they may encounter. Those barriers may be physical, spatial, or temporal. Regarding public transportation in particular, planners need to consider such things as route locations, locations of amenities the public needs to access, travel times and distances, as well as hours of operation.

For example, if the majority of users of a public transportation systems work late hours or on weekends, planners need to ensure public transportation modes run during the times workers need to arrive at or leave work even if the hours may be outside of a typical Monday through Friday job from eight in the morning to five o'clock in the evening. Considering this, Fort Smith Transit should survey riders of the public transportation system once or twice per year to address such questions as greatest travel destination needs, most convenient or necessary travel times including days of the week and time of day. Fort Smith Transit should consider that riders may need to access such amenities as childcare providers, schools, major employers, and grocery, shopping, and food sources.

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<sup>26</sup> Groome Transportation. (<https://groometransportation.com/portland-airport/>)

<sup>27</sup> BoltBus. (<https://www.boltbus.com>)

Service providers need to study data that spatially indicate where residents live in relation to public amenities in order to ensure city residents are being best served by public transportation. As populations move and shift over time, this data may also change. Therefore, the City of Fort Smith should regularly monitor GIS and U.S. federal Census data every few years to ensure public transportation services provided by Fort Smith Transit continue to align with rider needs. The most opportune times to make adjustments to systems are as planners notice data shifts reflecting new changes or when additional funding is received to upgrade services.

## FUTURE RESEARCH

There were a few actions which did not necessarily fall within the scope of this research but which do require further study. One of these tasks is the need to map current bus stop locations/stations along each route to determine the distance each population must travel to reach a bus stop, not just the most convenient bus route; related to this is the additional step of mapping current bench locations to insure they are spaced at frequent intervals so that vulnerable populations with mobility issues have a space to sit and rest. Both of these interventions help address spatial justice issues. As an extension of this element, a future researcher might propose new design interventions to match updated physical-space oriented policy recommendations and other findings.

Another area for analysis is to perform further studies regarding equity and access of other populations in Fort Smith not just the disabled or senior citizens. Special attention should be given to racial and ethnic minorities, the low-income, women, and a determination of the needs of the homeless based on last known place of shelter (in lieu of residential address). The latter data can be obtained from point-in-time surveys performed by local homeless shelters and related services.

This study is limited in that GIS and spatial data did not locate other services utilized regularly by residents. To further study access to other amenities, future research should spatially locate other necessary public works structures such as post offices and public libraries; places of worship, grocery stores, and public parks/green space.

In the course of research for this study, the cost of fares as a financial barrier to some vulnerable populations such as the low-income and homeless has been referenced as a potential equity issue. Future researchers may want to focus on how equitable existing fares are compared to riders' income levels and consider alternative methods of payment such as vouchers, a form of barter service, or paying on a sliding scale basis. If data shows there are discrepancies between fare prices and the ability to pay, the City of Fort Smith and Fort Smith Transit should consider implementing multiple accepted methods of payment.

Finally, as previously mentioned, in-person interviews of transit riders were not viable for this study due to outside circumstances. Researchers who wish to expand on this study may want to consider in-person surveys of vulnerable populations performed by established local non-profit agencies who already work closely with these populations. In-person questionnaires and surveys will help complete knowledge gaps. Residents may feel more comfortable sharing candid, personal experiences regarding Fort Smith Transit through these entities than through official city or planning agency channels.

## CONCLUSION

While the City of Fort Smith and regional metropolitan planning organizations are making a great effort to ensure inclusion of different populations within the city regarding public transportation access, more can be done. It is important to always consider the voices that are not always heard, opinions that are not always expressed because their day to day experiences are not the same as the majority population. As it has been said, "Look around and ask yourself, 'Who is not seated at the table?'" In

order to ensure a transportation system that works for and serves all, these populations—in this case, senior citizens and the disabled—need to be included in the decision-making process and more space opened to them to serve on boards or other governing entities that affect them. The City of Fort Smith and other regional transportation planning agencies should meet regularly to set joint goals that impact residents of the entire region. Together, these stakeholders should hold each other accountable for achieving actions taken toward specific goals within an internal timeframe they set for themselves and which they state in publicly available, easily searched, official documents. To ensure a city is making the most strides toward equity and access for all populations possible is to create a city that benefits all, not just some.



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## APPENDICES

### APPENDIX A. TABLE OF KEY POLICY DOCUMENTS

Table 1. Key Policy Documents

#### Key Policy Documents

<u>Document Title</u>	<u>Year</u>
<i>River Valley Transportation Providers</i>	undated
<i>2005-2009 ACS Census data - Languages spoken</i>	2005-2009
<i>2040: The New Frontier - Frontier MPO Metropolitan Transportation Plan</i>	2016
<i>Fort Smith Transit: Ride Guide</i>	2016
<i>Fort Smith Transit: Public Participation Plan</i>	2017
<i>Title VI Program</i>	2017
<i>Fort Smith Transit: Ridership Satisfaction Survey Summary Report</i>	2018
<i>Fort Smith Transit: Paratransit Plan of the Fort Smith Transit (FST) - 2019 [ADA]</i>	2019

### APPENDIX B. SUMMARIES OF EACH KEY POLICY DOCUMENT

#### RESULTS

#### River Valley Transportation Providers (undated)

In the document titled “River Valley Transportation Providers,” there is one section of the document that vaguely refers to the idea of transit equity. However, in following the looser interpretations of the categories for the purposes of this paper, the quote was counted.

The list of calculated categories for this document follows:

- Transportation justice: 0
- Civil rights in the South: 0
- Civil rights in Arkansas: 0
- Transit equity: 1
- Mobility justice: 0
- Spatial justice: 0

**2005-2009 ACS Census data - Languages spoken (2005-2009)**

Note that the document “2005-2009 ACS Census data - Languages spoken” is not a text-based narrative report and is instead a spreadsheet of data related to the demographics of Fort Smith Transit riders and the languages they speak according to American Community Survey (ACS) census data from 2005-2009. Therefore, the document contains zero references to any of the categories.

**2040: The New Frontier - Frontier MPO Metropolitan Transportation Plan (2016)**

In “2040: The New Frontier - Frontier MPO Metropolitan Transportation Plan,” a particular phrase indicates the “area’s transportation needs”; this phrase is broadly interpreted to indicate transportation justice. The document contained the following quotes:

*“The metropolitan transportation planning process is required to be a cooperative, continuing and comprehensive multimodal process that monitors regional growth and any subsequent socio-economic changes resulting from growth,”* (Frontier MPO, 2016, p. 13). This quotation is understood to refer to transportation justice.

*“Efforts were made to encourage participation at all stages of decision making in the transportation process to include underserved individuals, the elderly, low income and minority individuals, persons with disabilities, and persons with limited English proficiency (LEP). Staff worked closely with Federal, State and local agencies with interest in transportation issues with the development of transportation projects as well as working with professionals in all modes of transportation,”* (Frontier MPO, 2016, p. 87). This quote is attributed to the concept of Civil Rights in Arkansas.

The following list shows the number of instances of each category for “2040: The New Frontier - Frontier MPO Metropolitan Transportation Plan”:

- Transportation justice: 2+
- Civil rights in the South: 0
- Civil rights in Arkansas: 2
- Transit equity: 2+

- Mobility justice: 2
- Spatial justice: 2

### **Fort Smith Transit: Ride Guide (2016)**

In the document “Fort Smith Transit: Ride Guide,” the majority of the quotes found in the paper indicated references to transit equity and one referred to mobility justice or other mobility access needs.

*“For Hearing Impaired- Dial 7-1-1 For Arkansas Relay Service,”* (City of Fort Smith, 2016, p. 1)

*“It is the mission of the employees of the Fort Smith Transit Department to provide safe, efficient, affordable, prompt, friendly, professional and clean public transportation to improve the quality of life for the citizens of Fort Smith, Arkansas,”* (City of Fort Smith, 2016, p. 4). This statement is listed in the document’s Mission Statement.

*“A separate brochure titled “Fort Smith Transit Passenger Regulations” is available upon request and can be provided in an alternate language or braille,”* (City of Fort Smith, 2016, p. 4).

*“Please contact the transit office should you need special assistance,”* (City of Fort Smith, 2016, p. 4).

The list of calculated categories for this document follows:

- Transportation justice: 0
- Civil rights in the South: 0
- Civil rights in Arkansas: 0
- Transit equity: 3
- Mobility justice: 1
- Spatial justice: 0

### **Fort Smith Transit: Public Participation Plan (2017)**

The document “Fort Smith Transit: Public Participation Plan” contains a number of detailed quotes that refer to the categories researched. The majority of these quotes refer to transit equity while another specifically mentions the term ‘environmental



justice.’ Although environmental justice is not, specifically, one of the categories researched for this study, because of the intention behind the term and the context in which it is used within the document, the quote indicating environmental justice was counted toward the category ‘Civil Rights in Arkansas,’:

*"Pursuant to Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, dated February 11, 1994, and the subsequent U.S. Department of Transportation Order 5680.3, issued April 15, 1997, FST promotes Environmental Justice in all aspects of the transportation process. These procedures augment and reaffirm the policy to adhere to and advance the principles of the National Environmental Policy Act of 1969 (NEPA), Title VI of the Civil Rights Act of 1964 (Title VI), the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (URA) as amended, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Transportation Equity Act for the 21st Century (TEA-21) as amended, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and other statutes, regulations and guidance that address or affect infrastructure planning and decision making; social, economic, or environmental matters; public health; and public involvement. To these ends, notices of meetings and public hearings will be specifically provided in minority and ethnic gathering places to promote participation in the transportation planning process. Minority and ethnic communities will be monitored through census data to guarantee their inclusion in the process as populations fluctuate over time. Special accommodations (e.g. interpreter, sign language interpreter, large print copy, etc.) may be requested of FST during normal business hours at least five (5) business days prior to the meeting. FST will attempt to accommodate all such requests," (City of Fort Smith, 2007, p. 4)*

The following list indicates the category count from “Fort Smith Transit: Public Participation Plan”:

- Transportation justice: 1
- Civil rights in the South: 0
- Civil rights in Arkansas: 1
- Transit equity: 4
- Mobility justice: 1
- Spatial justice: 1

**Title VI Program (2017)**

In the document simply referred to on the City of Fort Smith Transit Department page as “Title VI Program,” the only category found to be contained within it is the concept of transit equity. The following two quotes indicate where references to this category were interpreted:

*“Staff will work with transit providers and member jurisdictions to study and provide information on how transit systems/service can be expanded and/or improved within the region and a Customer Satisfaction Survey will be a tool used to get public opinion. (Responsible Agency: Frontier MPO, Fort Smith Transit, and AHTD),” (City of Fort Smith, 2017, p. 1).* This quote is loosely translated to refer to Transit Equity.

*“Staff will work with Fort Smith Transit and member jurisdictions to study/educate how the current transit system/service operates and how the system could be expanded and/or enhanced within the region with additional revenue source,” (City of Fort Smith, 2017, p. 2).* This is also loosely translated to indicate Transit Equity.

The following list shows the number of instances of each category for “Title VI Program”:

- Transportation justice: 0
- Civil rights in the South: 0
- Civil rights in Arkansas: 0
- Transit equity: 2+
- Mobility justice: 0
- Spatial justice: 0

**Fort Smith Transit: Ridership Satisfaction Survey Summary Report (2018)**

Scoring was performed on the document titled “Fort Smith Transit: Ridership Satisfaction Survey Summary Report.” There was only one implication of the concept of transit equity; this was listed in the Conclusion section of the document. All other categories were not mentioned nor indicated: “More assessments for reducing transportation infrastructure barriers and improving transit for the community are

recommended,” (City of Fort Smith, 2018, p. 18). Another quote from the document noted: “Most of the on-demand riders had some sort of a disability,” (City of Fort Smith, 2018, p. 4) but there was no elaboration on how this observation was determined or further explanation. The following list shows the number of instances of each term in “Fort Smith Transit: Ridership Satisfaction Survey Summary Report”:

- Transportation justice: 0
- Civil rights in the South: 0
- Civil rights in Arkansas: 0
- Transit equity: 1
- Mobility justice: 0
- Spatial justice: 0

#### **Fort Smith Transit: Paratransit Plan of the Fort Smith Transit (FST) - 2019 [ADA] (2019)**

In the document “Fort Smith Transit: Paratransit Plan of the Fort Smith Transit (FST) - 2019 [ADA],” there were references to five of the six metrics for evaluation of justice, equity, and civil rights. The concepts of transportation justice and transit equity were alluded to but the exact terms are not specifically mentioned. In coding for the word “right” or “rights,” these referred to civil rights in general but not specifically to civil rights in the South or in Arkansas specifically. Therefore, in these instances the mention of “right” or “rights” is loosely interpreted to refer to civil rights in the South as this is the larger of the two scales. The following list shows the number of instances of each term:

- Transportation justice: 2
- Civil rights in the South: 2
- Civil rights in Arkansas: 0
- Transit equity: 3
- Mobility justice: 2
- Spatial justice: 1

## CODING ANALYSIS RESULTS

Table 2. Coding Analysis - Results, Calculations

RESULTS					
Transportation justice	Civil rights in the South	Civil rights in Arkansas	Transit equity	Mobility justice	Spatial justice
SCORE	SCORE	SCORE	SCORE	SCORE	SCORE
Transportation justice	Civil rights in the South	Civil rights in Arkansas	Transit equity	Mobility justice	Spatial justice
2	2	2	1	2	1
2+		1	2	2	2
1			2+	1	1
			2+	1	
			4		
			3		
			1		
5+	2	3	15+	6	4

TOTALS

*Final Content Analysis coding calculations*